

Croplife

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No. 36

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Residue in Tests
At Iowa Station

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North Central States Seen as Area for Biggest Potential for Pesticide, Fertilizer Industries

— SPECIAL REPORT —

By JOHN CIPPERLY

Croplife Washington Correspondent

WASHINGTON—The recent statement of Don Paarlberg, U.S. Department of Agriculture economic consultant, that two million U.S. farms produce 88% of the agricultural commodities going into commercial markets, leads to some conjecture about how the North Central states fit into the picture.

A substantial portion of that 88% must come from this region, which contains about 225 million acres of cropland.

An effort to assay industry potential in this area will be made in this article, which is third in a series. For previous two special articles see page 1 of the Aug. 22 issue of Croplife and page 1 of the Aug. 29 issue.

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Shipments in 1954-55 totaled 1,427,735 tons, a gain of 8% over shipments of 1,317,136 a year earlier.

In the 1954-55 period, production consisted of 1,601,356 short tons of normal and enriched, 639,421 of concentrated and 9,210 of wet-base goods. This represents a loss of 4% for normal and enriched from output of 1,663,756 short tons a year earlier; a gain of 26% for concentrated, from 508,321, and a gain of 8% for wet-base goods, from 8,545.

Shipments in 1954-55 included 837,393 tons of normal and enriched, up 1% from 832,133 a year earlier; 582,215 tons of concentrated, up 22% from 478,790, and 8,127 tons of wet-base goods, up 31% from 6,213.

Stocks on hand at the beginning of June, 1955 totaled 248,022 tons, a gain from 204,755 tons a year earlier. June production totaled 147,744 tons, a decrease of 13% from the June, 1954 output.

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Within these states, particularly the western fringes, is some of the cropland which, according to USDA soil use economists, must be eventually taken out of field crop production and returned to pasture or forage use.

Consequently, Mr. Berger's analysis

(Continued on page 17)

Farm Flood Damage Mounts to Billions In Northeast States

BOSTON—Billions of dollars damage to crops and farms was the toll assessed on the eastern seaboard in the wake of New England's most furious and destructive tropical hurricane.

Spawned by Hurricane "Diane," the storm caught Northeast states completely unprepared. The tobacco crop in Connecticut was ruined. Cornfields in the disaster areas were under 15 or more feet of water with boats being used to rescue residents.

Large areas were completely isolated. Hundreds of farm properties were devastated. All forms of land transportation were paralyzed by crumbling dams, which poured water over crops and submerged rails. Telephones and power systems were left dead.

The region was declared a disaster area by the federal government. President Eisenhower made a first hand survey of the damage, arriving at Hartford, Conn., where he cut red tape to start federal relief projects. It was the worst flood in the history of the eastern United States.

Emergency field offices of the Smaller Business Administration were set up in the stricken areas to handle applications for loans from stricken farmers and business men. Losses were not recoverable as there is no flood insurance. Only Lloyd's of London writes flood insurance.

The Smaller Business Administration said loans would be granted on conditions prevailing before the hurricane struck. Loans to be made are on basis of buildings and stock; 10-year loans at 3% interest.

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NAC MEETING

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Puerto Rico Gets Nitrogen Plant

— See Photo on Page 19 —

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This will be Puerto Rico's first complete ammonia products plant, and represents the second largest new endeavor on the island.

Forty-two thousand tons of anhydrous ammonia will be produced per year. Part will be sold as such, and the balance will be converted to aqueous ammonia, sulfuric acid, ammonium sulfate and possibly other materials for use by agriculture and industry.

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WASHINGTON—American Cyanamid Co., New York, last week requested Food & Drug Administration to extend the tolerance for parathion to cover the following commodities in their raw state:

Alfalfa, barley, clover, corn forage, hops, oats, olives, panagola grass, pea forage, timothy, vetch and wheat.

In this request the company is asking for a tolerance of 1 part per million.

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James G. Patton, president of both organizations, said at Denver that no decision would be made "for at least 60 days" and that freight rates will be a "big factor."

The plant had been tentatively scheduled for construction at Georgiana, Ala., but a group of NFU officials, including J. Albert Hopkins, president of the Arkansas Farmers Union and a member of the NFU five-man executive committee, urged consideration of a more centrally located site with water transportation. No cost estimate for the plant has been announced.

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European Chafer Quarantine Established In Connecticut, New York, West Virginia

WASHINGTON—Effective Sept. 1, parts of Connecticut, New York and West Virginia were regulated under a European chafer quarantine, the U.S. Department of Agriculture has announced. Woody and herbaceous plants of all kinds, parts of these plants, all types of soil, and other articles or materials likely to harbor this serious agricultural pest, moving interstate from regulated areas in the three states, will generally require certification based on treatment, inspection or nonexposure to infestation.

Although the entire states of Connecticut, New York and West Virginia are included within the European chafer quarantined area, only those portions of the states actually infested or immediately

threatened by the pest are regulated.

The major shippers of regulated products that will be affected are nurserymen in the regulated areas of northwestern New York. Their establishments have been operating for several years under New York State requirements similar to the new Federal regulations.

Plants, soils, and chafer-exposed materials are made safe for shipment chiefly by chemical treatments in the field, under USDA supervision.

The areas regulated under the quarantine, which the USDA Agricultural Research Service administers, are as follows:

Connecticut—A localized area in the town of Meriden, New Haven County.

New York—An area in the city of

Elmira, Chemung County; part of the city of Buffalo, Erie County; all of Monroe County; part of the city of Niagara Falls, Niagara County; parts of the city of Syracuse and the town of Salina, Onondaga County; towns of Canandaigua, Farmington, Geneva, Gorham, Hopewell, Manchester, Phelps, Seneca and Victor, and the cities of Canandaigua and Geneva, Ontario County; the towns of Junius and Tyre, Seneca County, and all of Wayne County.

West Virginia—District of Bloomery and town of Capon Bridge, Hampshire County.

The European chafer was first recognized in this country in 1940, in New York. It was found in Connecticut in 1951 and in West Virginia in 1954.

Following a public hearing on the proposed quarantine last March at Pittsburgh, USDA personnel conducted further surveys to determine extent of spread of the insect.



Dr. John B. Pitner

John B. Pitner Named Head of Agricultural Service for Grace

MEMPHIS—Dr. John B. Pitner has been named manager of agricultural service for Grace Chemical Co., according to W. J. Haude, vice president and general manager of Memphis firm, Grace Chemical subsidiary of W. R. Grace & Co.

Dr. Pitner will be in charge of Grace Chemical's agricultural service program, including grant-in-research programs in various agricultural experimental stations dealing with nitrogen fertilization of crops and with protein nutrition of ruminant animals.

Prior to joining Grace, Dr. Pitner was head of the agronomy department at Clemson Agricultural College, Clemson, South Carolina, where he was in charge of research, teaching, and extension work.

A native of Mississippi, Dr. Pitner attended Mississippi State College where he received his B.S. and M.S. degrees. He received his Ph.D. degree from the University of Wisconsin with a major in soil chemistry. In Mississippi he worked as assistant and associate agronomist at the Mississippi State College and Delta Experiment Station, as agronomist in charge of soil fertility investigations.

In 1947, Dr. Pitner was appointed soils scientist with the Mexican cultural program of the Rockefeller Foundation. In this position he was in charge of fertility investigations on corn and wheat grown under irrigated and non-irrigated conditions and varietal testing of soybean, grain sorghums, grasses and legumes. He worked in this capacity until 1954, when he joined Grace Chemical.

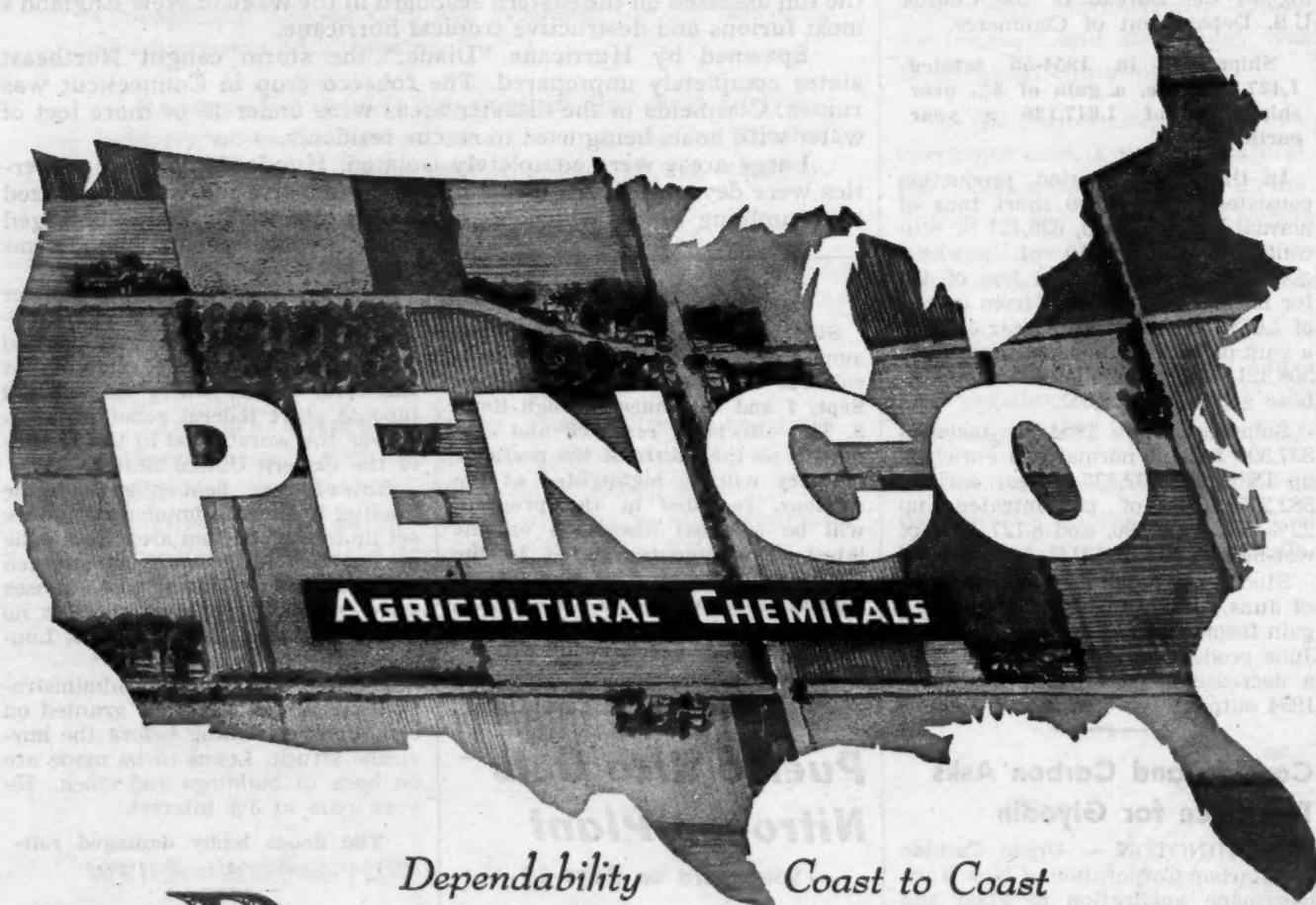
He is a member of Alpha Chi Sigma Xi, the American Association for the Advancement of Science, the American Society of Agronomy, the Soil Science Society of America, of which he is now serving as a member of the fertilizer committee.

KANSAS FIELD DAY

MANHATTAN, KANSAS — Intensive experimentation in improvement of summer crops, crop production practices and soil management practices will be shown and explained to Kansas farmers at the annual field day of the Kansas State College agronomy farm at Manhattan, Sept. 9, according to R. V. Olson, head of the Kansas State department of agronomy.

BEEF CATTLE DAY

MINNEAPOLIS—The annual cattle-grassland field day will be staged Sept. 20 at the University of Minnesota's Rosemount agricultural experiment station, 20 miles south of the Twin Cities.

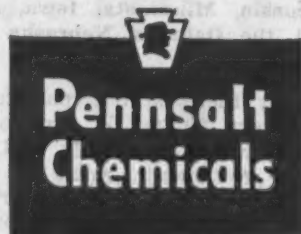


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INSECT AND PLANT DISEASE NOTES

Cotton Plant Disease Reported as Severe

RALEIGH, N.C.—Bacterial blight, or angular leafspot of cotton is reported to be unusually severe in fields throughout the state this year. If conditions remain favorable for its spread, bacterial boll rots may be very severe.

Whether the present outbreak is due to greater seed infestation from last year's crop or is due to the rainfall pattern, is not known. The latter, however, is thought to be the more likely.

The insect situation is reported to be bad, with boll weevil in a heavy migration in the Piedmont and bollworms also on the increase. Small worms, as well as large worms and

boll weevils are feeding on green bolls. The situation throughout the area is like conditions found in other areas a week to 10 days ago when many fields, mostly late cotton, were severely attacked. Where insecticides would seem to pay, growers are urged to continue applications at 3 to 4 day intervals and use 15 to 20 lb. of the material per acre.

Vegetable Insects Retard Growth of Delaware Crops

NEWARK, DEL.—Corn earworms and garden webworm adults have been reported abundant in lima bean fields in Delaware. Flea beetles are injuring broccoli and kale while cabbage looper and imported cabbage-worm are prevalent on broccoli and cauliflower.

On potatoes, flea beetles, cabbage

looper and tobacco hornworms are active. Powdery mildew is appearing on squash. Tobacco hornworms are present in destructive numbers on tomatoes and peppers, while cabbage looper damage on these crops is conspicuous.—L. A. Stearns and J. W. Heuberger.

Boll Weevils Building Up in Tennessee

KNOXVILLE, TENN.—Boll weevils are still building up in the southern counties and are expected to continue this increase for the rest of the growing season. Migration has begun from the south, adding to the populations we have had all season. Weevils are moving to the north, but it is believed that there will be very little damage outside of the southern counties.

Populations are still spotted; in places they are heavy and in others they are still light. Weevils can be found in most fields now below Jackson, Tenn. Control has been carried

out in most fields that had damaged populations of weevils. Rank has hindered control operations over the infested area.

This week, 28 fields were surveyed in the southern counties and 28 found to be infested. The average percent of infested squares was 5.9%. The average for the infested last year at this time was 5.9%, average two weeks ago was 17% in all the infested fields.—R. P. M.

Grasshoppers at High Level in Northern Area

ST. PAUL, MINN.—Infestation of grasshoppers have reached economic proportions in practically all of the agricultural areas of Minnesota. Threatening to severe population levels are found with greater frequency than was the case in 19

European corn borer moth emergence is virtually complete in southern districts of the state. Black blister beetles are abundant in most areas of the state. Larvae of these insects are feeding on grasshopper eggs. However, in the adult state, the beetles cause injury to a number of plants.

Tarnished plant bugs are infesting ever-bearing strawberry plants in Becker area.

Corn Rootworm Doing Damage in Missouri

COLUMBIA, MO.—Report of heavy damage in widely scattered areas throughout the state are being received. Areas in infested fields are severely lodged and adults are feeding heavily upon silks to such an extent that pollination is retarded. There is not that can be done now to alter the situation. However, damage year can be avoided by use of an insecticide applied prior to planting or by following a strict rotation.

Bollworm infestations range from very light (0.25%) to very heavy (23%) throughout the cotton area. The size of the bollworms varies from small to nearly grown. During the latter part of last week moth activity and deposition increased, especially the ranker cotton.

Infestations are not occurring in any general areas but vary tremendously from field to field. There is the importance of checking each individually for economic infestation cannot be overemphasized.—St. Kyd and Geo. W. Thomas.

New Mexico Reports Insects in Cotton

STATE COLLEGE, N.M.—Cabbage loopers are giving most cotton growers some trouble. Counties which have reported damaging infestation on cotton acreages are Lea, Roosevelt, Chaves, Dona Ana, and Quay.






Cotton bollworms are still abundant in Dona Ana, Chaves, and counties. In fields which have sprayed or dusted, damaged squares range from 2 to 6%. Cotton worms are present in small numbers in a few fields in Eddy County.

Cotton fleahoppers are very abundant in cotton in Dona Ana County with counts ranging from 2 to 5 per 100 sweeps. Lygus bugs are becoming very abundant in cotton in Dona Ana County. In fields checked, nymphs were found in range from 8 to 28 per 100 sweeps with adults ranging from 15 to 20 per 100 sweeps. Three-corned alfalfa hoppers are becoming abundant in cotton in Dona Ana County, but little damage, if any, has been observed. Counts range from 5 to 20 per 100 sweeps.

Thrips are very heavy on cotton in Eddy County. Severe infestation of cotton at this time of year

(Continued on page 11)

Naugatuck Agricultural Chemicals

product	application	advantages
Aramite miticide 	controls mites on citrus and deciduous fruits, cotton, other row crops, ornamentals and vine crops. Also controls poultry mites.	non-hazardous, low cost per acre, highly compatible, harmless to natural predators.
Spergon seed protectant 	controls soil fungi and storage insects (with DDT) on most crop and vegetable seeds.	effective at economical dosages, safe on seed, easy to use, compatible with most other chemicals including legume inoculants, low cost.
Phygon-XL fungicide 	controls fungus diseases on fruit trees and row crops.	extremely low cost per acre, easy to apply, compatible, harmless to pollen and bees.
MH* growth retardant and herbicide <small>© U.S. PAT. 2,614,916</small> 	inhibits grass growth; controls wild onions and quack grass; prevents tobacco suckering. Pre-harvest application prevents destructive storage sprouting of edible onions and potatoes.	extremely safe on plants; easy to apply; in wild onion control, one spray lasts up to 3 years.
Alanap pre-emergence weed killer 	Pre-emergence weed-control for vine, row crops; asparagus and nursery stock. Available commercially for use on vine crops.	safe on recommended crops, relatively non-toxic, easy to apply, favorably priced.



Naugatuck Chemical

Division of United States Rubber Company
Naugatuck, Connecticut



manufacturers of seed protectants—Spergon, Spergon-DDT, Spergon-SL, Spergon-DDT-SL, Phygon Seed Protectant, Phygon Naugats, Phygon-XL-DDT, Thiram Naugats, Thiram 50 Dust—fungicides—Spergon Wettable, Phygon-XL—insecticides—Synklor-48-E, Synklor-50-W—fungicide-insecticides—Spergon Gladiolus Dust, Phygon Rose Dust—miticides—Aramite—growth retardants and herbicides—MH-30, MH-40—pre-emergence weed killers—Alanap-I—blossom-setting compound—Duraset.

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Nitrogenous Tankage 10/11% NH₃

Over 1,000 Expected At Corn Belt Ammonia Conference

URBANA, ILL.—Leading nitrogen experts from Illinois, Indiana, Ohio, Wisconsin and Michigan will speak at the Corn Belt Agricultural Ammonia Conference to be held at the University of Illinois Sept. 7-8. More than 1,000 farmers, dealers and equipment distributors are expected to attend.

The general program starts at 1:30 p.m. Sept. 7 in the auditorium on the Champaign-Urbana campus. In the evening Dr. Kenneth McFarland of

General Motors Corp., will speak at the banquet in the ballroom of the Illini Union Bldg.

On the afternoon of Sept. 8 applicator manufacturers will demonstrate ammonia application equipment on fields that are plowed, in stubble and in sod.

The University of Illinois College of Agriculture is cooperating with the Agricultural Ammonia Institute in sponsoring this program. Other Illinois farm organizations are assisting.

The field demonstrations will be held about six miles south of Champaign. Markers along Route 45 will show the way.

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Heads Market Group

LOS ANGELES — William M. Clines, western sales manager of heavy chemicals for American Potash & Chemical Corp., has been elected president of the Chemical Research Market Association of Southern California. The industry organization holds periodic sales meetings at which latest information is presented on new industries and products in Southern California and adjacent areas.

Pfizer to Build Regional Office, Warehouse in Chicago

CHICAGO — A new combination warehouse and regional sales office will be constructed here shortly by Chas. Pfizer & Co., Inc., New York. The facilities will be located on a four-acre site at 6460 W. Cortland St. Pfizer expects to be in the new quarters by May 1, 1956.

The building will have 81,000 sq. ft. of warehouse space. Part of it will be air-conditioned for storage of heat sensitive drugs and chemicals. Also air-conditioned will be offices, lunch room and conference room on the second floor.

Pfizer Laboratories, J. B. Roerig & Co., chemical sales and agricultural sales divisions, will use the warehouse facilities and have regional offices in the new structure.

The Chicago branch will be the fourth combination warehouse and office established in the company's program to expand its distribution facilities. Other branches are in operation in San Francisco and Atlanta, one is nearing completion in Dallas and another is planned for Portland, Ore.

Dow Stockholders Reelect Members of Board of Directors

MIDLAND, MICH. — Stockholders of the Dow Chemical Co. reelected all 15 incumbent members of the company's board of directors and overwhelmingly approved a management proposal to provide stock options for key personnel at the recent annual stockholders meeting.

Dow president Leland I. Doan told some 1,200 shareholders assembled in Midland's high school auditorium that in his opinion the company outlook had never been better than at present. More than 80% of the outstanding Dow shares were represented in person or by proxy.

Mr. Doan noted that the company earnings for its 1955 fiscal year which ended May 31, had shown 12% improvement over the previous fiscal year on a sales increase of 10%. He attributed the higher earnings ratio to cost reduction programs and economies inherent in operating at higher levels in relation to capacity.

He further pointed out that depreciation and income taxes, which were up 14 and 47% respectively, tended to cloud the picture of "actual operating efficiency." Profits before taxes and depreciation were improved by 20% over 1954, he declared.

Mr. Doan said Dow's sales for June and July were about 18% better than in the same months of 1954 and that continued improvement was anticipated.

The Dow president spoke at some length of the company's various employee benefit programs, including group insurance, pension and profit sharing plans and stock purchase programs.

The board of directors of Dow have declared a stock dividend of one share for each 50 shares held, payable Nov. 1 to stockholders of record at the close of business Sept. 23, 1955.

Du Pont of Canada Representatives Get New Assignments

MONTREAL—Changes in location and assignments for several agricultural chemicals representatives of Du Pont Company of Canada, Ltd., have been announced by the company.

Effective Oct. 1, Merle E. Ward, product manager, will transfer his headquarters from Montreal to Toronto. L. A. O'Neill, Ontario representative, will go to Edmonton to serve the Alberta and British Columbia markets, while G. H. S. Malcolmson, of Calgary, will move to London, Ont., to replace him.

It was announced at the same time that Arthur A. Appleton has joined the company as agricultural sales representative for Eastern Ontario, Quebec and the Maritimes, replacing D. A. Haggart who has been assigned to duties in another department.

Conservation, Plowing Events Set in Indiana

WABASH, IND. — National Soil Conservation Days and state-national plowing contests are scheduled at 2,000-acre site eight miles northeast of Wabash Sept. 14-17.

Purdue University experimental plots on 15 acres of the area will demonstrate the solution of many problems facing the average farmer each year. Weed control, shallow plowing, deep plowing, mulching methods, seed bed preparation, types and amounts of fertilizer, cultivation spraying, width of corn rows, seeding of grass after cultivation, subsoiling, and wireworm control are some of the things to be featured.

Vice President Richard M. Nixon will climax the four-day event with a talk Saturday afternoon, Sept. 17.

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C. E. Campbell

E. Campbell Named Representative in Washington by Velsicol

CHICAGO—C. E. Campbell, former director of research extension for the United Fruit Co., Boston, has been appointed technical representative for the Washington, D.C., area by Velsicol Chemical Corp., Chicago, according to John Kirk, vice president and director of sales.

Mr. Campbell, who will reside in Bethesda, Md., will be responsible for maintaining contact between his firm and the various agencies of the federal government.

A graduate of Dartmouth, with a master's degree from Cornell, Mr. Campbell served in the air force during both World War II and the Korean War. His second tour of duty was on special assignment concerned with the development of chemical methods of preserving air force materials. Mr. Campbell has served on research and extension staff at Cornell and with the R. T. Vanderbilt Co. of New York in technical development of agricultural pesticides.

Velsicol's manufacturing units at Marshall, Ill., and Memphis, Tenn., produce technical chlordane, heptachlor and endrin. Other products include industrial resins, solvents, saturants, chlorine, caustic soda and benzol.

Pacific Coast Borax Appoints Two New Sales Representatives

LOS ANGELES—F. T. Winters Jr., manager of the Pacific Coast Borax Agricultural Sales Division, has announced the appointment of two additional sales representatives in the United States.

Joseph S. Gowland, who received his bachelor and master degrees from Michigan State College, is assigned to the company's office at Chicago. He will handle weed control and other products of the division in a portion of Illinois, Indiana and lower Michigan.

Elmer H. Schmieder, a graduate of the Colorado School of Mines, will be working out of the Agricultural Sales Division's district office at Kansas City. Mr. Schmieder will do sales contact work in Nebraska and Missouri.

JOE STEWART DIES
MUMFORDSVILLE, KY. — Joe Stewart, head of Stewart & Co., died in 1922, died at the age of 61 at the Sampson Hospital, Glasgow, Ky., Aug. 23.

Mr. Stewart headed a company that handles coal, lime, cement, fertilizers, seeds, feeds and also operated an oil distributing company. He was also the oldest active director of the Hart County Deposit Bank.

John B. Childress Joins Frontier As Sales Representative

WICHITA — John B. Childress, Midland, Texas, has been appointed sales representative for Frontier Chemical Co., Wichita, Kansas. He will serve in the Texas area from the Frontier sales office at Midland.

Mr. Childress was associated for the past eight years with the Chemical Process Co. in various technical and sales engineering capacities, most recently as district sales manager for west Texas and New Mexico. He developed and patented a well treating solution (Mudsol) and a temporary plugging material (Form-jel) used in treating oil and gas wells.

An honor graduate of Southwestern (Texas) University, Mr. Childress received his master's degree in chemistry from Georgia Tech in 1942. During World War II he served as a Navy officer. He is married and has two sons.



AT AGRONOMY MEETING—(Photo at left) Iver J. Johnson (left), Iowa State College, Ames, receives the gavel of the presidency of the American Society of Agronomy at the group's recent meeting at Davis, Cal. (See Croplife issue of Aug. 29, page 1.) Handing over the gavel is retiring ASA president, G. G. Pohlman, University of West Virginia. The right photo shows Dr. R. M. Swanson (left), Michigan State University, chairman of the ASA Student Section, presenting the National Plant Food Institute award to Duane Swarts, president of the Field and Furrow Club of the University of Illinois. This group was judged the best student agronomy club in the nation for 1955.



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Good Cotton Weather Continues in Mid-South

MEMPHIS — Continued hot and dry weather drew smiles from Mid-South cotton farmers last week, but diversified farmers are hoping for some rain for pastures, corn and silage crops.

In some areas farmers reported they are irrigating soybeans, corn, cotton and other crops, the extension services of Arkansas, Mississippi, Missouri and Tennessee said.

While the weather was ideal for cotton growth, cotton farmers still are having their problems with insects. There was a shortage of dusting planes in Arkansas.

Arkansas Extension Service officials said cotton prospects showed little change and that a few bales were ginned to kick off the year's harvest season. Most of the Arkansas crop continued to fruit heavily

and boll weevils continued to give trouble in some areas. Prospects continued "highly favorable" for feed grains, silage and hay crops, although late crops need rain.

Farm conditions in southeast Missouri are about the same as those in Arkansas, the farm reports indicated.

With continued fair, hot weather, the Mississippi crop situation generally is good, the Mississippi Agricultural Extension Service reported.

Much hay was harvested and stored during the past week. Silage harvesting also proceeded at a rapid rate. Many counties will have all-time highs in silage tonnage this year.

Some sections need a good rain, but do not want a long rainy period. Many farmers having supplemental irrigation equipment are using it on cotton, corn, permanent pastures and other crops.

Farmers with extra rank cotton are finding bacterial rot generally

over the stalk, said T. M. Waller, extension cotton specialist. Where the cotton is rank and there are no young bolls to protect, defolating is suggested.

Boll weevils continue migrating to younger cotton from older cotton with tougher bolls, said A. G. Bennett, extension entomologist.

Poisoning should be continued into the first week of September on some cotton that still is succulent and blooming in the upper part of the plant, Mr. Bennett said.

NOPCO DIVIDEND

HARRISON, N.J. — The Nopco Chemical Co. has declared a quarterly dividend of 40¢ a share to holders of common stock of record at the close of business Sept. 12, 1955. The dividend is payable Sept. 20, 1955. It is the 101st consecutive dividend declared by the company to its stockholders since the payment of its first dividend on March 30, 1927.

GRANULAR PESTICIDES

(Continued from page 1)

the milk of dairy cows when the mals are fed on the treated plant

The Ankeny experiments show that applications of the new, granular insecticides leave 100 to 1,000 times less residue on the leaves of corn plants than emulsion sprays and about half as much residue where the leaves join the stalk.

Unlike sprayed materials, granular toxicants do not climb leaf surfaces, but tend to slide into the leaf whorls and to the joints of leaf and stalk, where young corn borers do most of their feeding.

Tests conducted against the season or first-brood borers in 1954 showed no significant difference in the effectiveness of three granular toxicants tested—DDT, EPN and heptachlor. Of the two insect carriers or bases used—tobacco attapulgite—the attapulgite (a material) proved superior. In 1955 there was no significant difference between DDT, malathion, heptachlor and EPN, or between the attapulgite and tobacco-base carriers, for first-brood borer control.

These experiments showed the best control of first-brood borers with DDT granules can be had by making two applications—the first at the insect's peak egg-laying period, the second at or just after the hatch. With a single DDT application the scientists believe that best control will probably result from treating the corn at or just after the egg hatching reaches its peak.

In experiments with the late-season or second-brood borer, all the treatments performed about the same except malathion, which in one experiment proved ineffectual. Excellent results were obtained in one experiment against the second-brood borer when DDT and heptachlor were used in combination with an attapulgite base.

Heptachlor, used in the 1953 tests at a per-acre dosage twice that of DDT, killed almost 90% of the larvae, while the DDT reduced larval numbers by about 82%.

For effective control of the second-brood borer, the minimum applications of the granules were found in 1954 tests to be 1½ lb. DDT per acre, 1½ lb. heptachlor or ½ lb. EPN per acre. Light dosages of DDT and EPN were tried but did not prove effective.

A power duster and two modified grass seeders were used to apply granular insecticides. One of the seeder-type dusters proved more effective than the power duster. The other seeder did not give significantly better results than the power duster but it wasted less insecticide and broke down less often.

The scientists feel that, if field experiments continue to show excellent borer control with granular insecticides, new equipment for applying them should be developed.

Field Crops Day Set For Sept. 30

BERKELEY, CAL.—The chemical control of weeds and of insect pests in vegetable crops will be featured topics for discussion at the Vegetable Crops Field Day to be held September 30 on the agriculture campus of the University of California, Davis.

Extension weed specialist William A. Harvey will speak on progress in weed control, and entomologist W. Harry Lange will discuss pest control.

Theme of this year's conference will be "Twenty-five Years of Progress," showing the development of vegetable crop raising during the past quarter century.

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KRAFT BAG CORPORATION

Better Selling

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW



NEAT SHOWROOM—A neat store interior, with eye-appealing merchandise displays, helps business at the Sunshine Feed Stores, Inc., Ayer, Mass. George Bixby, manager, reports that the neat and orderly appearance results in extra sales to drop-in customers.

Orderly Store Interior, Neat Displays Attract Business For Massachusetts Retailer

By AL. P. NELSON
Croplife Special Writer

Excellent display at the Sunshine Feed Stores, Inc., Ayer, Mass., under the direction of George Bixby, helps the firm to get a sizable volume of business on insecticides, sprayers and fertilizer. During the season when these materials are sold, the farmer who walks into the 50 ft. wide and 80 ft. long store, finds fertilizer neatly stacked on platforms and insecticides displayed in orderly fashion on islands.

The reason why the store looks so neat is that Mr. Bixby closely follows a store appearance check list which is issued by Allied Mills, Inc., which operates this store and others. The excellent store displays really appeal to farmers, especially on insecticides, for they ask many questions about these preparations.

Mr. Bixby does quite a business on fertilizer and insecticides with orchard owners, gardeners and farmers. In this area the orchard owners are using a great deal of 7-7-7 with extra magnesium, he reports. Top dressing for pastures is a 7-7-7, while 0-20-20 is largely used for alfalfa and ladino pastures.

"Farmers are really becoming deeply interested in proper fertilization and the results that can be obtained thereby," says Mr. Bixby. "I think part of this is due to the excellent publicity fertilizers get in farm magazines and newspapers, as well as from state agriculture departments, county agents, etc."

"The dealers are doing their share, too, in putting more emphasis on fertilizer spring and fall."

Mr. Bixby reports that in addition to occasional display advertising in newspapers, he uses quite a few classified ads. He finds that many farmers read these classifieds, for they always seem to be looking in the classified section to buy something or

other. Thus, they often see Mr. Bixby's feed or fertilizer ads. He also does some direct mail advertising on fertilizer and insecticides.

"We have a lot of door trade," he reports. "Many customers pick up one or two bags of fertilizer at a time. Quite a few of these folks walk into the store, and that is one reason why we take care to have a lot of appealing displays. This policy pays off in selling extra items."

Cooperation With County Agents Pays For Maine Dealer

County agents and other agricultural personnel in Maine are doing an excellent job of keeping the farmer apprised of the newest advances in fertilization of soils for better and more economical yields, says H. P. Constantine, manager of the Bangor Tallow Co., Bangor, Maine, a branch of the Portland Rendering Co., Boston.

The county agents and other state department officials frequently hold meetings with farmers on proper fertilization of fields for crops and pastures, says Mr. Constantine.

Members of his firm publicize these meetings whenever possible and also attend some of the events. In this way there is coordination of information about fertilizer from maker to farmer.

In this part of Maine, potato growers are using 10-10-10 on potato soil, 10-10-10 for grassland, 5-10-10 for beans and 4-12-8 and also 5-10-10 on corn, reports Mr. Constantine. Maine farmers are using quite a bit of fertilizer, especially the potato growers, as they have found that it boosts yields considerably. Use of fertilizer for pastures is also on the upgrade, Mr. Constantine reports.



SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Croplife Merchandising Editor

A plan of operation is absolutely essential for every business operator, maintains S. E. Lauther, president, Irwin Union Bank & Trust Co., Columbus, Ind., in a letter to this department.

Mr. Lauther analyzed many sources in preparing some conclusions of good and bad business operations, both on a retail level and at wholesale points. He reached the conclusion that every operator at every level needs a plan for the extension of credit, handling of collections and promotion of sales.

He writes: "I am thoroughly convinced that many dealers believe they are making the most positive approach when they just endeavor to give the customer what he wants, no real plan being involved. Such a dealer frequently ends up holding accounts receivable past due a year or more and then everyone is unhappy.

"A specific sales plan covering credit, collection of credit, discount where appropriate, etc., can be sold along with selling the product. In our business where we finance the deals for hundreds of small retailers, we think sometimes that there is too much 'selling of terms' and not enough selling of product. However, an examination of the results certainly indicates that merchandise is moved and that collection methods are effective."

Some interesting findings reported by Mr. Lauther show that a cash discount is preferred by farmers to an extra charge for credit. One study revealed that 50% of the farmers would not object to borrowing from a financial institution to pay cash for farm supplies, and that few would leave a dealer for the sole reason that he went on a cash basis.

Another finding: Elevators with a strict credit policy were generally more successful financially than were elevators with a liberal credit policy.

Farm-City Week

Dealers across the country may be asked soon to assist in the support of Farm-City Week which will be held Oct. 23-29. Kiwanis International is taking the lead in organizing this activity and if ever any dealer has something to gain from an abundance of "special weeks" this is one that should qualify.

What dealer hasn't heard his farmer-customer complain of the high cost of things he buys and how little his produce brings on the market. Further, what dealer hasn't heard the comment of, "Wish I were a dealer. All you do is turn on the lights, set the prices and the customer walks in to buy." Absurd? Of course.

Few farmers honestly understand or appreciate the dealer's problems fully. To many farmers the "grass is greener on the other side of the fence."

A project like Farm-City lends a chance for the dealer to hold an open house, conduct tours, invite farmers in for a movie or program explaining his purpose and procedures and set up educational displays or booths, either in the store, at a bank or a fair. It will all help educate the farmer to appreciate

the dealer's problems and at the same time cement good relations between the two.

Don't turn down a chance to talk to a farm group. You need not be a polished speaker. You'll be appreciated more if you can tell farmers the business side of your operation in plain, unprofessional language.

If a Kiwanis representative asks you to join in Farm-City Week activities be a willing partner because it's for your good and the betterment of the farm chemicals industry.

Northern Chemical Building Program Moves Ahead

SEARSPORT, MAINE—Work is progressing rapidly on the \$9,000,000 construction program of Northern Chemical Industries, Inc., according to F. L. Litty, vice president. The program includes the first anhydrous ammonia plant in New England, and an addition to the sulphuric acid plant. The capacity of the latter plant will be increased about 50%.

The company is engaged in the production and sale of superphosphate, ammonium sulphate, sulfuric acid and liquid alum. The anhydrous ammonia plant will supply a portion of the requirements for agriculture and industry in New England and the maritime provinces of Canada.

The new construction program should be completed by Feb. 1, 1956, says Mr. Litty.

He also points out that while relatively little anhydrous ammonia has been used for agricultural purposes in New England as yet, agricultural colleges in the area are busy doing research on the use of the product on New England soils. It is expected that agricultural demand for anhydrous ammonia will be strong as a result of these college findings.

Mr. Litty also says that it is interesting to note that the new anhydrous ammonia plant of the firm will be one of the first in the nation to produce hydrogen from residual fuel oil.

Other officers of the firm include J. E. Totman, president; R. E. Fraser, vice president and assistant treasurer; J. C. Totman, vice president, and Dr. C. C. Carpenter, director and vice president.

Better Selling

Richer Sales Fields for Dealers

Doing Business With

Oscar & Pat



Tall, sun tanned Bill Anderson, clad in faded blue shirt and overalls came slowly into the Schoenfeld & McGillicuddy store and ambled up to the railed enclosure which housed the office. Here, like many another farmer, he leaned on the 4-foot high stained railing and looked expectantly at the three people seated at desks.

Tillie Mason, the plumpish book-keeper stopped typing, looked up and smiled in a very friendly manner. Oscar Schoenfeld, busy with figures, merely glanced up for a second, then turned his attention to his sheets of paper, scribbling some notes. Pat McGillicuddy laid down his pencil, got up, smiled and came forward and shook Bill Anderson's hand.

"Hi, Bill, how are you?" he said interestedly. "How's the family?"

It was easy to see that Bill Anderson liked this personal attention. "Oh, the family's pretty good," he said. "All except Grandpa. He went out into the orchard to pick up transparent windfalls for pies, and he stepped in some poison ivy. Now he has to sit in the bathtub a couple times a day with some purple stuff in the water. Boy, is he mad!"

Pat grinned. "Yeah, that's tough. I don't envy anyone with poison ivy. I had it tough once. Maybe you'd better spray that ivy this fall or spring, so grandpa doesn't get caught next spring."

"Mebbe so," Anderson said, "although Grandpa says it's the last apple he'll ever pick. Pat, I seen that ad you fertilizer dealers ran on buying and applying fertilizer in the fall. I never did that before. I kinda like the idea. I'm always so busy in the spring and the ground's so soggy. Maybe I would save a lot of fuss and labor if I'd buy some fertilizer now and put it on the land. You fellers are offerin' a discount, ain't you?"

"Not a very big one," Oscar spoke up quickly from his desk. "And only for cash."

"Well, I can pay cash," Bill Anderson said slowly, "if I get a good buy."

Pat McGillicuddy was doing quite a bit of thinking. "Bill," he said, "as

Grass Supply Is Dairyman's Best Friend

"A good supply of grass is the dairyman's best friend." That was the statement of the Middle West Soil Improvement Committee, in summarizing a recent report by G. A. Williams, Purdue University extension dairyman.

Mr. Williams points out that a milking cow requires at least 100 lb. grass or legumes per day as long as she is in milk. Figuring an average grazing season at about six months every year, a pasture should provide not less than 10 tons of grass per cow, he points out.

AGREEMENT SIGNED

NEW YORK—C. & C. Super Corp. has signed an agreement to buy Power Products, Inc., Walter S. Mack, president of C. & C., has announced. Power Products makes a spray gun for applying paint, insecticides and fertilizer.

I remember it you got quite a bit of sandy loam on that farm of yours, haven't you?"

The tanned farmer nodded. "Yep, Lots of fellers wouldn't want that land, but I got it cheap. And it sure raises a lot of hay, corn and oats. The oats get ripe before the hot August dry spells set in, and the corn is along pretty well, too. If you know how to farm sandy soil, and get a break on the rain, you can come out pretty good."

"You've certainly done well," Pat complimented, "but about fertilizing this fall, in your case, maybe you'd better not."

The farmer looked astonished, and so did Oscar and Tillie.

"Why not?" asked Anderson. "In the ad you said—" he broke off.

"Well," said Pat slowly. "I know we said that in the ad, and what we said is the truth, especially about heavy silt and clay loam soils. But the university experts say that sandy soils maybe won't hold the nitrogen in fertilizer so well when applied in the fall and there might be a loss. I want you to know the facts before you buy and apply the fertilizer."

The farmer looked hard and long at Pat. Then he said, "Pat, I sure appreciate you tellin' me that. I didn't know that was the case. If them university fellers say so, I better not take a chance. I'll just wait until spring like I always did."

"In your case, perhaps that would be best," Pat said earnestly, "or at least until the university men give a more favorable report on sandy soils."

"Well, how about this anhydrous ammonia that people are so crazy about?" Anderson asked. "Some of my neighbors put that on last fall and it worked wonders on their corn."

Pat nodded. "If it is applied when the ground is below 40° in the fall, then the nitrogen won't escape, the experts say. You could try that if you want to."

"Hm-m," said slow Bill Anderson scratching his chin, "I guess I wait and fertilize in the spring. You just beat yourself out of an order, Pat."

The lanky, blue eyed Irishman grinned. "I'm still living, Bill. I can wait until spring for your fertilizer order. I want you to buy only materials you can get sure value from here. Other farmers with heavy silt and clay loam soils can buy and apply fertilizer profitably now. That ad was meant for them."

Bill Anderson smiled. It was a warm, friendly smile that took in Tillie Mason, Pat and even stern faced Oscar. "By golly," he said "you fellers here is honest. I can count on it. I never got skinned here yet. That's why I come here to buy all the time. And I tell my neighbors about you, too, Pat."

"Thanks, Bill," Pat smiled. "We appreciate those kind words."

"I tell you what," Bill Anderson said magnanimously. "We got some roosters we should butcher on the farm. You folks come out to dinner this Sunday, yah? The whole bunch of you. I tell you my Hannah she is a cook. You will let your belts out a couple of notches."

Oscar was about to voice a quick

refusal, but a glance from Pat stopped him. "I'm sure we'll all be delighted to come, won't we, folks?" he said.

Tillie nodded and so did Oscar reluctantly.

"And bring your wives, too," Bill said. "What's a couple more, on a farm? And young lady, bring your boy friend."

Tillie flushed, and her eyes brightened. Her heart began to throb. Oh, perhaps bashful Dave Schuster would come along. Maybe out in the country, with the bumblebees buzzing, the fresh smell of hay, the peace and the quiet, maybe—he would get up the courage to propose, after four long years of her waiting for him to do just that.

"Oh, yes," she said happily. "I'll be glad to try to bring him."

Liberal Fertilizer Use Helps New Hampshire Green Pasture Winners

DURHAM, N.H.—The three top winners in the New Hampshire Green Pastures program have been announced by George E. Frick, state judging team chairman. They are Clifton Flint, Milan, Coos County; Stoddard Brothers, North Haverhill, Grafton County, and Charles Sullivan, Cornish Flats, Sullivan County.

Mr. Flint has 38 head of Holsteins and 23 young stock. Total farm acreage is 281 with 100 tillable and operations are handled with the help of a hired man. The Milan dairyman applied 19 tons of fertilizer to his land together with 55 tons of lime. He made 250 tons of hay and 190 tons of grass silage. Grain to milk ratio was one to 4.28 in winter and one to 8.4 in summer and 360,000 pounds of milk were produced last year.

Managed by Gerald Stoddard, the Stoddard Brothers' farm has 100 tillable acres of a total of 340 acres. Applied during the past year were 27 tons of fertilizer, 600 tons of manure and 34 tons of lime. The Stoddards made 75 tons of hay, 150 of grass silage and had 20 acres of corn silage. Pounds of milk produced totalled 452,860. The herd consists of 55 Holstein milkers, 43 young stock and a bull.

Thirty Jerseys are milked on the Sullivan farm. Mr. Sullivan also has six calves and 12 other young stock. Hay harvested amounted to 100 tons; grass silage, 125 tons and corn silage, 100. Total land pastured or cropped amounts to 125 acres. Because of the foraging of wild boars on the home farm, Sullivan raises his corn near the village. The dairyman applied to the land 380 tons of manure, 12 tons of lime and nearly 12 tons of fertilizer.

MINER DAMAGE

BOSTON—The Boston Museum of Science is warning property owners that the birch leaf miner, a European insect first found in this country 32 years ago, is causing considerable damage, particularly to the gray birch, because of a "particularly heavy" infestation in Massachusetts this year.

November, 1956 Seen as Completion Date for GLF Plant

BIG FLATS, N.Y. — The Grange League Federation, with stores in several states, is building a new dry fertilizer plant here, to have a capacity of 30,000 tons of granular and powdered fertilizer. Construction was begun in April, 1955, and will be completed by November, 1956. Cost will be approximately \$800,000.

Manager of the new plant will be Orrin Howard. L. M. Oliver, of the Grange League Federation, is in charge of construction. Fertilizer Engineering & Equipment Co., Green Bay, Wis., is the consulting engineer.

At the new fertilizer plant there will also be storage and sales facilities for liquid fertilizer, reports Mr. Howard. At least one 30,000 gallon storage tank will be erected, and more added as needed.



By RAYMOND ROSSON
County Agent, Washington County, Tenn.

Planting tomorrows is a lot of fun. Have you ever tried it? You need few seed of yesterday, but certainly today's methods should be used.

The seed is important, but where you plant and how you cultivate and feed these tomorrows will determine what kind of tomorrow harvest you'll reap.

The greatest opportunity today "tomorrow growing," provided you have the correct information today.

You ask, "Where do we plant tomorrows?" The people who have given "tomorrow growing" a good deal of thought and have conscientiously tried to grow good tomorrows, suggest the following places: In the home, at church, in school on the street, in agricultural community clubs, civic clubs, stores and voting booths.

Fertilizer suggestions would be: Friendliness, thoughtfulness, love, kindness and sympathy.

Cultivation: Be sure to make good use of honest effort and above everything else in cultivation of tomorrows, use that best tool, "public relations."

There will always be "seedtime and harvest." There will always be tomorrows as long as the world stands and there will always be farmers.

We can't quit. The Great Teacher said, "Go Forth to Sow." Today the day. What we do today will determine the kind of tomorrows we'll reap tomorrow.

P.S.—A good farmer told me today, "I applied 500 lb. of a 4-16-8 when I seeded my alfalfa ten days ago." Makes me wonder what kind of hay yield he'll reap tomorrow. I guess a good one, won't you?



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FARM SERVICE DATA

Extension Station Reports

Ample, well-placed fertilizer, and where needed, would save lots of forage seed and the potential pasture otherwise destined to fail, according to the Agricultural Research Service, U.S. Department of Agriculture.

At USDA's Research Center, Beltsville, Md., plots seeded several ways to put high-phosphate complete fertilizer near the seeds averaged 2,210 lb. weed-free forage per acre first crop. But plots with either fertilizer or seed broadcast had 40 to 70% weeds and averaged only 410 lb. desirable forage.

D. F. Beard, ARS agronomist, says seed failures cost farmers \$50 million a year in wasted seed alone. Inadequacy of nutrients and poor placement of applied nutrients in the soil relative to seed location are big causes of loss.

★

New Jersey's common aquatic plants and the necessity for weed control in many of the state's lakes to increase their recreational value, are featured in the August edition of "New Jersey Outdoors," official publication of the State Division of Fish and Game, Department of Conservation and Economic Development.

A resolution adopted by the State Fish and Game Council, setting forth the official policy of aquatic weed control, is contained in the new edition, as well as an article on the problem of aquatic weeds by Robert C. Huckins, of the New Jersey Fisheries Laboratory.

Edwin T. Moul and David E. Fairbrothers, of the Department of Botany, Rutgers University, have written an article describing New Jersey's common aquatic plants, including wild celery, water shield, clothed pondweed, waterweed, white water lily, fanwort, Watermillfoil, crowhead, pickerelweed, and water-willow.

★

Scientists at the New York Experiment Station at Geneva have found that fruit flies may carry brown rot spores from diseased to healthy peaches. This may explain why some fruit that goes to market in good shape develops brown rot on the fruit and or in the home, they say.

Peach growers combat brown rot from early spring until harvest. Brown rot spores may be readily transmitted from blossom blight lesions or from infected fruit in the tree or on the ground to healthy peaches before harvest and during picking, brushing, sorting, or packing, explain the station specialists.

Insect control is of major importance, they assert, because brown rot often starts where the fruit is injured by insect feeding.

It has been found in the station tests that the length of time for brown rot to develop decreases sharply as the fruit ripens. It takes 36 hours to develop brown rot on a green to light yellow peach when the temperature is around 74 degrees. From ripe to ripe peach may show brown rot within 10 to 12 hours after infection.

It was also found that newly exposed stem-end tissue at harvest time is especially vulnerable to infection. Short-stemmed varieties are more

peratures and the peaches stand up better after picking. It is important that the fruit be thoroughly covered, especially after it softens and turns yellow. This sometimes means two or three sprays at weekly intervals just before harvest.

★

A Minnesota soils specialist says that farmers will need to use more fertilizer in the years ahead. Dr. W. P. Martin, head of the University of Minnesota's agronomy department, says this will be necessary not only to replace plant nutrients removed by growing crops, but to offset rapidly rising costs of production and living expenses.

These rising costs, says Dr. Martin, must be matched with in-

creasing crop yields per acre, by making every acre produce more dollars in net profit.

The route to these higher costs is through improved soil and crop management methods, he says.

High on these lists of such methods is the use of good rotations, well adapted, heavier-yielding crop varieties and the use of fertilizers and lime, where needed, Dr. Martin reports.

As crop yields go up, costs of production per bushel go down, he says. This means bigger net profits per acre.

Dr. Martin points out that the use of fertilizer not only makes farmers more profit immediately, but it helps maintain soil fertility levels, because there is a carry-over benefit from plant food left in the soil.



MORE FOR YOUR MONEY

you name the size...

Of course, Flint Tanks for the handling of liquefied gases, that must be stored under pressure, are fabricated in accordance with ASME Code for 250 psi working pressure. They meet and exceed all requirements of U-69. Every plate and completed vessel is shop inspected. Modern fabricating methods take advantage of good design — with press fitting to close tolerances, machine welding and facilities available for X-ray and stress relief inspection.

But more than these Flint provides the advantages of a major plate steel fabricator; complete integration of facilities of the Tulsa and Memphis plants employing volume production methods, and the know how accumulated during forty years of service as a "tank builder."

Flint builds every size NH_3 tank from Applicator to the largest BULK STORAGE UNIT.

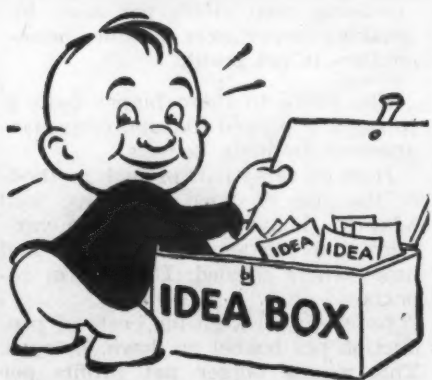
APPLICATOR TANKS		FARM SERVICE TANKS		BULK STORAGE TANKS	
					
100 Gal.	24" dia. x 57" O.A.L.	500 Gal.	37" dia. x 120" O.A.L.	6,000 Gal.	60" dia. x 43' O.A.L.
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250 Gal.	30" dia. x 92" O.A.L.	1,000 Gal.	41" dia. x 193" O.A.L.	8,000 Gal.	72" dia. x 39'-7" O.A.L.
310 Gal.	37" dia. x 78" O.A.L.			10,000 Gal.	72" dia. x 49' O.A.L.
500 Gal.	46" dia. x 79" O.A.L.	1,000 Gal.	46" dia. x 145" O.A.L.	12,000 Gal.	72" dia. x 58'-1" O.A.L.
				18,000 Gal.	94" dia. x 51'-6" O.A.L.
				30,000 Gal.	106" dia. x 68'-4" O.A.L.

WRITE FOR ILLUSTRATED CATALOG

FLINT STEEL CORPORATION

MEMPHIS, TENNESSEE

TULSA, OKLAHOMA



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6306—Fall Fertilization

A new booklet entitled, "Fertilize This Fall" has been prepared by the Spencer Chemical Co. The company notes that views on fall application of fertilizer have changed and that authorities with few qualifications endorse the fall use of nitrogen, phosphate and potash. Dealers are urged to "get into the act" and Spencer's new booklet gives some facts and figures concerning the effectiveness of fall fertilization. Secure the booklet by checking No. 6306 on the coupon and mailing it to Croplife.

No. 6304—Sprayer Finish

A new metal coating called finish "X" has been announced by the O. W. Kromer Co. for use on Kromer sprayers. The company announcement states that the finish is designed to prevent rust, corrosion and pitting of tanks and to keep sprayers from clogging. Prior to application of the finish to tanks and booms, the surfaces are sandblasted white and two coats of the product

are applied, each coat being baked on at high temperatures. Further information about the finish may be secured by checking No. 6304 on the coupon and mailing it to Croplife.

No. 6302—Cotton Defoliation

The National Cotton Council has published a leaflet entitled, "Chemical Defoliation of Cotton—1955 Progress Report." The leaflet is intended to bring the basic defoliation guide first published in 1953 up-to-date by adding an analysis of the newest developments in use of harvest-aid chemicals for cotton. Among the topics discussed in the leaflet are amino triazole, defoliation vs. desiccation, defoliation following irrigation, boll rots and a chart of the various chemicals in use, together with the manufacturers' names and recommended usage. Secure the leaflet by checking No. 6302 on the coupon and mailing it to Croplife.

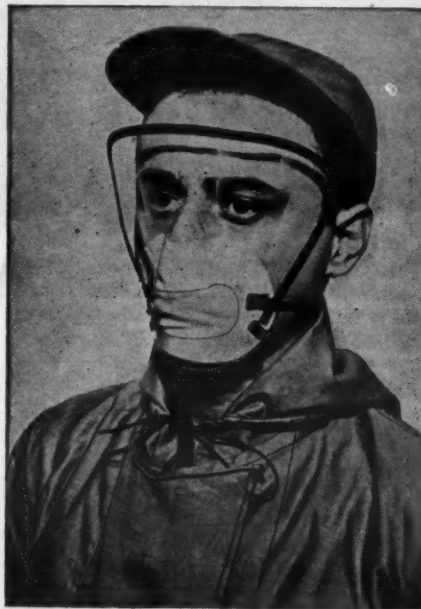
No. 6303—Chlordane

Chlordane promotion material in the form of consumer booklets is available from the Velsicol Corp.,

Division of Arvey Corp. One is a 12-page booklet on garden insect control and another is a 16-page booklet on household insect control. Samples are available without charge. The backs of the booklets are blank for imprinting of a sales message. Secure more complete details by checking No. 6303 on the coupon and mailing it to Croplife.

No. 5276—Face Mask

A General Scientific Equipment Co. announcement states that its "featherweight Lumarith plastic mask and cotton gauze filter are effective for numerous light dusts and chipping



hazards." It is said to protect the nose, lungs, face and eyes against nuisance dusts, chips and particles in all types of light, non-toxic work. The filter pad consists of cotton and sanitary gauze specially treated for softness and is replaceable. Extra filters are available. For more complete information and price quotations check No. 5276 on the coupon and mail it.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6297—Chemical

Acetonedicarboxylic acid, a well-known, highly reactive chemical, is now available in pilot plant quantities by Chas. Pfizer & Co., Inc. Designated by the company as ADA, the compound is derived from fermentation-produced citric acid. A white crystal-

line powder of high purity, ADA is seen useful industrially for the preparation of insecticides, disinfectants, fungicides, dyestuffs, chelating agents, amino acids, leavening agents and as a synthetic intermediate. A comprehensive data sheet and samples are available upon request. Merely check No. 6297 on the coupon and mail it to this publication.

No. 6298—Lime Manual

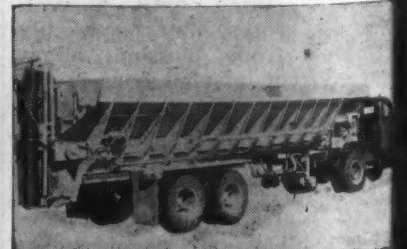
A reference manual concerning the manufacturing processes, applications and specifications of lime and lime products has been announced by the Ohio Lime Co. The 28-page, 4-color book traces lime production from the open quarry where it is mined through various production processes to application and specifications that govern the correct methods of their use. Company officials say over two years were spent collecting, editing and producing the reference manual. The brochure is being distributed free of charge. Check No. 6298 on the coupon and mail it to this publication to receive it.

No. 5250—Bag Closing Tape

A new aid to those who store or handle products normally contained in multiwall bags has been announced by the Chase Bag Co. The inventory aid is a smooth-finish tape in a wide variety of colors, which is sewn across the bottoms of multiwall bags as a "closing" tape. In the case of sewn valve multiwall bags, closing tapes are used on both tops and bottoms of bags. The new colored tape called "Flattertape," is said to serve as a ready identification of the bag contents when bags are stacked and the printed surface of the bag is not visible. Other advantages claimed are the improved printing surface and the availability of colored inks to contrast with the tape. Natural kraft tape is also available in the same texture. The new tapes will be available for all customers who prefer them to the usual crepe-type tape. It was announced that the tapes will lower cost to the user. For more complete details check No. 5250 on the coupon and mail it to this publication.

No. 6299—Bulk Transport

The Henderson Manufacturing Co. has under production a bulk fertilizer delivery unit called the Henderson Chief Bulk Transport. Designed for one-man operation, the unit self-unloads into spreaders and also permits spotting the transport at any job freeing the truck-tractor to pick up another transport load. The transports are available in lengths from



18 to 36 ft. A 14-ft. swivel conveyor swings in a 156° arc around the base of the transport. Advanced Hydraulic Mech action raises, lowers or folds the conveyor vertically for over-the-road transport. The streamlined hopper is corrosion-resisting all steel welded construction, with rounded front, tarpaulin hooks and catwalk. Rear feed gate opening is hydraulically operated. The entire door can also be swung open to handle other materials. The unit is equipped with a 15 h.p. Wisconsin motor and extra heavy-duty chain (with oiler) to drive the conveyor belt. Check No. 6299

Send me information on the items marked:

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| <input type="checkbox"/> No. 5222—Catalog | <input type="checkbox"/> No. 6297—Chemical |
| <input type="checkbox"/> No. 5250—Closing Tape | <input type="checkbox"/> No. 6302—Defoliation |
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| <input type="checkbox"/> No. 6291—NH ₃ Speedometer | <input type="checkbox"/> No. 6306—Fall Fertilization |
| <input type="checkbox"/> No. 6293—Heptachlor Booklet | <input type="checkbox"/> No. 6298—Lime Manual |
| <input type="checkbox"/> No. 6294—Spreader | <input type="checkbox"/> No. 6299—Bulk Transport |
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| <input type="checkbox"/> No. 6296—Booklet | <input type="checkbox"/> No. 6301—Checklist |

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CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 343,
P. L. & R.)
MINNEAPOLIS,
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67,

Reader Service Dept.

Minneapolis 1, Minn.

coupon and mail it to secure more complete information.

No. 5222—Equipment Catalog

Just off the presses is the new 1955-56 catalog of the Seedburo Equipment Co. which illustrates and describes, according to the company, some of the largest lines of grain, seed and seed testing, grading and handling equipment ever offered to the trade. More than 200 pages of colored illustrations and descriptions are included in the book. A copy may be had by circling No. 5222 on the coupon and dropping it in the mail.

No. 6294—Fertilizer Spreader

The Simonsen Manufacturing Co. announces the production of a bulk fertilizer spreader designed for use with high analysis fertilizer. The spreader has stainless steel compon-



ents at various vital locations and employs stainless steel wire belt in conveying the fertilizer to the hydraulically operated distributing fan. Secure more complete information by checking No. 6294 on the coupon and mailing it.

No. 6300—Catalog

Antara Chemicals, sales division of General Aniline & Film Corp., has published an "Organic Chemical Catalog," which is one of a series of brochures describing Antara's products. The organic chemicals listed are produced in commercial or semi-works quantities. In the catalog's index, each product is listed alphabetically under its chemical abstracts name and most common synonyms. In the data section, the chemicals are alphabetically arranged under the designation normally used by Antara. The products are described, minimum standards governing shipment are set forth, and hazards, when present, are listed. A copy may be obtained by checking No. 6300 on the coupon and mailing it.

No. 6301—Literature Checklist

The Diamond Alkali Co. has published a checklist of literature which it has published and is available to readers. The list of literature on Diamond chemicals and their uses was first prepared for the company's sales staff but distribution has been expanded. The available literature includes reference manuals and handbooks, technical bulletins and data sheets and product folders and leaflets. Secure the checklist by marking No. 6301 on the coupon and dropping it in the mail.

No. 6279—Pump

Hypro Engineering, Inc., is marketing a portable pump weighing 26 lb., complete with motor, hinged carrying handle and a vacuum switch that permits untended operation. Its capacity is up to 5 gal. per minute with pressure up to 30 lb., and it is said to handle clean or dirty water with a minimum of clogging. It lifts water up to 10 ft. unprimed or 22 ft. primed. Secure more complete details by checking No. 6279 on the coupon and mailing it.

No. 6295—Ammonia Leak Detector

A new pocket-size device for detecting ammonia leaks is being offered to ammonia users by the Nitrogen Division of Allied Chemical & Dye Corp. The device may be obtained free of charge by circling No. 6295 on the coupon which appears elsewhere on this page and returning it to this newspaper.

No. 6296—Chemicals Booklet

"The Story of the Chemicals You Live By" is the title of a 24-page booklet published by the Diamond Alkali Co. It outlines how the company's chemicals are used in the agricultural chemicals field as well as in other industries. A section is

devoted to "plants on parade," and shows pictures of the various company plants. The "behind the scenes" section shows pictures and descriptions of how the chemicals are produced. Secure the booklet without charge by checking No. 6296 on the coupon and dropping it in the mail.

No. 6291—NH₃

Speedometer

New literature has been made available by the Stewart-Warner Corp. on a speedometer designed to be used for the application of anhydrous ammonia (NH₃) or any fertilizer, insecticide or weed killer. The unit registers over-the-ground speed in miles per hour and any variation in speed is immediately reflected in the reading. It registers distance traveled in miles and can be installed

on any wheel tractor, fertilizer or spray rig, or on any slow moving farm machinery. To secure the literature, including price information, check No. 6291 on the coupon, clip and mail it to this publication.

No. 6293—Heptachlor Booklet

A new, pocket-size booklet showing cotton insects in natural color is now available. The booklet which shows the boll weevil, cotton flea hopper, thrip, rapid plant bug, tarnished plant bug, cutworm and armyworm contains valuable information on cotton insect control, the use of heptachlor formulations and the rates of application, according to its publisher, the Velsicol Corp. Check No. 6293 on the coupon, clip and mail it to secure the booklet.

You are looking at the **FIRST LOW-COST PRACTICAL LIQUID FERTILIZER APPLICATOR**



IS THIS A "ONCE IN A LIFETIME" OPPORTUNITY FOR YOU? . . .

"YOU BET IT IS . . . and the facts prove it! Liquid fertilizer is the coming thing in modern farming. Almost every farmer is a prospect—because it saves him time, money and back-breaking hard work. The only drawback has been the high cost of practical applicator systems. The picture shows you the answer . . . the Krause-Liberty hose pump applicator.

"Here is the only trouble-free system priced so low that every farmer can afford it. It's the only system that sidesteps corrosion problems. The farmer can use cheap secondhand oil drums for storage and supply tanks. He

saves hundreds of dollars . . . because the exclusive, patented hose pump will not clog or stop up from corrosion or foreign particles. They pass right on through.

"The Krause-Liberty system will do every job most farmers want. It will apply non-pressure or low-pressure nitrogen or complete fertilizers, either on top of the soil or under it. It works with the farmer's present tractor and implements . . . needs no expensive 'extras.' It is fully field-tested, fully proved. And it is going to make a lot of money for the dealers who go out and push it."

"Do you want to know more? Write, wire or phone us . . . today."



KRAUSE FLOW CORPORATION
HUTCHINSON, KANSAS
PHONE MOhawk 5-4421

Mr. Dealer--Cut out this page for your bulletin board

BUG OF THE WEEK

White-Fringed Beetle



How to Identify

The beetles are dark grey in color and their bodies are covered with thick short hairs. Length of the bug is usually less than a half inch. The wing covers, or elytra, are grown together so the insect cannot fly, but it is able to crawl and can travel a half mile or more over a period of time. The edges of the elytra are fringed with white, giving the insect its name.

Habits of White-Fringed Beetle

During most of the summer (usually May to August), adult beetles emerge and begin to hunt food plants. No males of the species have been found and the females reproduce parthenogenetically. When the female is but a dozen days old, she begins to lay eggs numbering in the hundreds. The eggs are light colored, oval in shape and are deposited as many as 60 to the cluster, in slightly sticky masses so they adhere to plant stems, stones and other objects near the ground. These egg masses are difficult to observe, since soil clings to them. From two weeks to two months are required for hatching, depending upon the temperature. Larvae feed below ground, doing damage to the lower parts of stems and taproots of many plants. Usually, there is but one generation of white-fringed beetle in a single season.

Damage Done by White-Fringed Beetle

These bugs attack a wide variety of crops, the number of susceptible species of plants being estimated in the hundreds. Much of the damage is done by the grub stage of the insect, when it attacks roots of cotton, tobacco, peanuts, corn, sugarcane, sweetpotatoes, clover and other field crops. (The U.S. Department of Agriculture on April 14, 1955, extended the white-fringed beetle regulated areas to include additional parts of Alabama and Tennessee. A total of eight states is included in the quarantine against the pest.)

Control of White-Fringed Beetle

Various methods suggested include both the use of chemical toxicants and also physical barriers to stop migrations. In the latter case, ditches may be dug with vertical sides, making it impossible for the beetles to get beyond the area. Thus trapped, the bugs may be killed with oil. Insecticides mentioned for control of the insect include heptachlor (1 to 1½ lb. an acre worked into top few inches of soil); chlordane, 2½ lb. an acre; DDT at 10 lb. an acre, applied as dust to control larvae. Adult beetles may be controlled by DDT sprays of dusts at ½ to 1 lb. an acre, applied to foliage.

Illustration of white-fringed beetle furnished Croplife through courtesy of U.S. Department of Agriculture.

Previous "Bug of the Week" features are being reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.

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What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

According to a report by the U.S. Bureau of Mines, the phosphate industry faces a good future in both demand and output potentials. A continual increase in use has been noted for many years. . . . The American Society of Agronomy met at Davis, Calif., Aug. 15-19 and heard many papers on crops and soils research. New president elected was Dr. Iver Johnson, Iowa State College.

Davison Chemical Corp. announced that it would take over the manufacturing work of A. F. Pringle & Co., Charleston, S.C. . . . Alabama By-Products Corp. appointed C. A. Graft as service and sales engineer at Birmingham. . . . Richard M. Young, Jr., became assistant sales manager of Ultra Chemical Works, Inc., Paterson, N.J.

U.S. Rubber Company's Naugatuck (Conn.) plant was damaged in recent floods, but the company announced that it had stocks on hand for immediate deliveries. . . . Fertilizer sales in California showed an increase of 21,000 tons in the second quarter of 1955. Sales during April, May and June, this year, totaled 320,702 tons. . . . Korea received authorization for \$9 million for fertilizer materials. Grant was made by the International Cooperation Administration. Sources of the material will be world-wide.

Don Paarlberg, USDA economist, took initiative to refute talk about a farm depression. In a speech made in New England, he brought out facts and figures indicating that farmers are not slipping in net income.

U.S. Department of Commerce reports that the farm chemical industry is in good condition, based on relatively low inventories in the face of record production. . . . Two phosphate plants, those of Virginia-Carolina Chemical Co. and Armour Fertilizer Works, reopened at Lakeland, Fla., following settlement of wage dispute which had closed the operations since June 1.

Diamond Black Leaf Co. moved to Cleveland, Ohio, from former office in Richmond, Va. . . . McLaughlin Gormley King Co., Minneapolis, announced the opening of a New York office as part of its expansion program. Nathan D. Root will head the branch.

Russell B. Stoddard and R. H. F. Dade were named to new positions by Food Machinery and Chemical Corp. Both are associated with the Fairfield Chemical Division. . . . Phytopath group and Ohio Pesticide Institute met at Wooster, Ohio for three-day meeting. . . . H. H. Allen, retired executive of Bemis Bro. Bag Co., died Aug. 13; and Dr. William Hale, farm chemurgy exponent and formerly Dow Chemical Co. executive, died Aug. 8.

USDA hinted that because of a larger-than-expected cotton crop this year, further acreage reductions may be necessary, effective next season. A total of 17 million acres may be planted, as compared to 18 million this year. . . . The Food and Drug Administration reported that chemical firms have a tendency to request tolerances higher than may be allowed safely.

Shell Chemical Corp., New York, announced a reduction in the price of its soil fumigant, D-D, from \$1.20 a gallon to \$1. . . . Strikes against Heyden Chemical Co. and American Agricultural Chemical Co. were ended on Aug. 8.

Gen. J. E. Hull, USA, retired, was elected president of the Manufacturing Chemists' Assn. He had served in the U.S. army for 37 years, holding many responsible posts.

Lion Oil Co. reported a gain of 29% over the first half of 1954. Income for first six months of 1955 was \$7,816,987 as compared to \$6,067,300 last year. . . . Dow Chemical Co., Midland, Mich., also reported a new sales record for its 1955 fiscal year. The new figure was \$470,742,000 as compared to sales of \$428 million made last year.

Food and Drug Administration assigned tolerances to two pesticidal materials, heptachlor and captan. Residues of 0.1 and 20 ppm respectively, were allowed. . . . An opportunity for added sales volume was seen in the cotton acreage allocation situation. Some 18 million acres of cotton are expected to be planted for next season.

U.S. Potash Co. approved expenditure of \$3 million for exploration leading to greater output from its mines near Carlsbad, N.M. . . . Nichols Fertilizer & Chemical Co. purchased the Oklahoma Fertilizer & Chemical Co., Oklahoma City. . . . The American Potash Institute, Washington, D.C., announced that deliveries of K₂O during the fiscal year of June, 1954, through May, 1955, totaled 2,164,997 tons, a new record. The figure was 8% greater than the previous fiscal year record.

Stauffer Chemical Co. announced that its expanded captan plant in Perry, Ohio, is now in operation. With the added output, the plant's annual production is rated at 12 million pounds a year. . . . Richard F. Brown was named a vice president and general works manager of Spencer Chemical Co., Kansas City, Mo.

William B. Porterfield, Jr., was named vice president of National Potash Co. He was formerly associated with U.S. Potash Co., New York. . . . Wallace E. Gordon was named director of advertising for E. I. duPont de Nemours & Co., Inc., Wilmington, Del. He was formerly with duPont's Grasselli Chemicals Dept. as assistant director of sales.

A survey conducted by the Agricultural Ammonia Institute indicated that use of anhydrous during the first five months of this year is 17% greater than during the corresponding period a year ago.

Camera Helps New Hampshire Farm Supply Retailer Win New Customers

The farmer who has a fine crop of corn, small grains, or alfalfa, or who is spreading fertilizer, or who is spraying gardens or orchards, might get his picture taken when Arthur Goulet, manager of the Check R Board store, Manchester, N.H., comes to visit him.

Mr. Goulet is known in this area as the "man with the camera" and he carries it with him on practically all his farm visits as he sells feed, farm supplies, fertilizers, etc. Then Mr. Goulet sends a picture to the farmer when he has them developed, and farmers like this type of courtesy.

Left to his own devices the farmer seldom has the inclination to take such pictures, but he does not object if a dealer takes these pictures on his rounds. In fact, many farmers ask Mr. Goulet for extra prints which they sometimes send to friends and relatives near and far.

Thus, from this angle, Mr. Goulet figures that the camera is an excellent advertising expense. Some of the pictures, too, he posts on his store's bulletin board, where they arouse a lot of interest.

This store has five routes, plus an outside salesman who is kept busy visiting farmers and selling them. Fertilizer, insecticides, weed killers, sprayers, etc., are included in the list of items which farmers buy from the store. Mr. Goulet says that the route system enables him to save on advertising, too, for the salesman and deliveryman are constantly reminding

the farmers of special products, well in advance of the season.

Mr. Goulet also advertises his fertilizer, insecticides and feeds in direct mail ads through the territory. This type of advertising pulls well, he states.

Excellent display of insecticides and sprayers in the store, too, helps get extra sales from heavy traffic. In addition to a good route business, the firm has a fine door trade.

Granular Fertilizer Demand Strong In New England

SEARSPORT, MAINE — The demand for granular fertilizer in the New England states has been good this year, report officials of Summers Fertilizer Co. The firm has been making fertilizer since 1932.

Potato growers in the Maine area use about one and one half tons of fertilizer, per acre, usually 6-9-12 to help them grow the spuds for which Maine is famous. Many Maine farmers, too, through the encouragement of college and governmental agencies are fertilizing pastures more than ever before.

Contrary to the belief that Maine is chiefly a broiler raising state, officials point out that certain areas of Maine produce potatoes, small grains, etc., of excellent quality and some areas have beef cattle and dairying activities.

Get the JUMP on COMPETITION...



through PRIVATE LABELS!

If you hope to keep several big "hops" ahead of your competition and to make sure that you "pocket" those important repeat orders, then it's high time you discovered the magic of packing your products under your private labels which will capitalize on your established name in your market!

If you are "fed up" with competing with everyone selling the same lines you are selling in your territory . . . if you are tired of seeing repeat orders sneak off to

competition . . . then you are ready to consider private labels!

Through private labeling you are assured an exclusive on your high quality line in your market . . . Your customers can't reorder from anyone but YOU!

PRIVATE BRANDS, INC., is ready with a complete service to help you "get the jump" on competition in your market. It will pay you to investigate today!

Write, Wire, Phone for Particulars



PRIVATE BRANDS, INC.

300 S. THIRD - CL-2 - KANSAS CITY, KANSAS

*if your product is marketed
through distributors and dealers...*

Croplife is for YOU!

AN IMPORTANT EXCLUSIVE is available to advertisers whose agricultural chemical products are marketed through distributors and dealers. It is Croplife's unique *regional crop-area circulation plan*, carefully developed to fill an urgent need in the industry's marketing and advertising facilities—the need of advertisers to reach the dealers and distributors and farm advisers with an up-to-date story of their products and their consumer promotion plans.

THIS IS THE PLAN: In addition to the weekly circulation to manufacturers and formulators, Croplife is distributed on a regional crop-area basis to the dealer-distributor-farm adviser segment of the industry. The merchandising section in each issue of Croplife is specifically edited for dealers in one specific region. This carefully planned editorial formula insures intense reader interest.

More than 11,000 DEALERS, 1,700 custom operators and 1,000 farm advisers receive the issue of Croplife specifically edited for their regional crop-area once each four weeks. The mailing schedule for this group covers consecutively four geographic regions of the United States (see map) with one of four regional dealer issues: The Northeast Dealer Issue, the South Dealer Issue, the Northwest Dealer Issue or the West Dealer Issue. Each week Croplife goes to more than 3,500 dealers, distributors and farm advisers in one of these four regional crop-areas.

THIS CIRCULATION EXCLUSIVE is available only through Croplife. The regional crop-area circulation to dealers has been carefully developed to fit the particular needs of the agricultural chemical industry. Many individual products have been developed and approved and are being sold for use on a specific crop; therefore, marketing and promotion plans must be directed specifically to the appropriate crop-area. Croplife's dealer circula-



In addition to its national coverage, Croplife offers a selective regional circulation plan in these crop areas

tion developed along crop-area lines offers advertisers the *most flexible medium possible*, designed to give "direct-hit" coverage for specific messages without the higher cost of a larger-than-necessary circulation on an inflexible nationwide basis. Advertisers interested in reaching dealers in more than one region can do so easily and economically with a selective advertising schedule.

HOW TO USE THE PLAN: Select the regional crop-areas—Northeast, South, Midwest or West—in which you need to reach dealers, distributors and farm advisers with the up-to-date story of your products and your consumer promotion plans. Plan your message to inform and to educate this group. Then, select the appropriate issues of Croplife to carry your advertisement. Croplife's printed circulation statement outlines the four regional crop-areas in detail and gives the issue-by-issue mailing schedule. Ask us for a copy.

AND SOON—4000 additional selected dealers will be added!

BEGINNING IN JANUARY this important circulation exclusive becomes even more valuable to advertisers who are reaching dealers through the pages of Croplife. An additional 4,000 selected dealers handling agricultural chemicals will be receiving the issues of Croplife edited specifically for their crop-areas. One thousand dealers in each regional area have been screened and verified and will be added to Croplife's controlled circulation

plan, bringing the total number of dealers, distributors and farm advisers receiving Croplife to more than 18,000. Each week Croplife will go to more than 4,500 of these interested readers in one of the four regional crop-areas.

MAKE YOUR PLANS NOW to capitalize on this unique advertising opportunity, exclusively through the pages of Croplife.

WRITE-WIRE-PHONE for the full story of your advertising opportunity in

Croplife...for richer ^{sales} fields

New York, 114 E. 40th St.
Murray Hill 3-3768
Minneapolis, 2501 Wayzata Boulevard
Main 0575

Published Weekly by
Miller Publishing Company
at Minneapolis
Issued Monday. Advertising Forms
Close 14 Days Preceding

Chicago, 2272 Board of Trade Bldg.
Harrison 7-6782
Kansas City, 614 Board of Trade Bldg.
Victor 1350

CIPPERLY

(Continued from page 1)

nts even stronger to increased fertilizer requirements within this region. It must also be supposed that the larger and more economic use of all types of fertilizer materials would be an expanding use of chemical chemicals.

For the region as a whole, Mr. Berger notes that fertilizer is playing an increasingly larger role in farm production. Consumption in the area has increased by threefold since 1941.

The Berger phase of this report, on the other aspects, gives emphasis to the optimum potential of farm production. Study is required of individual state use figures and increased applications necessary to reach the optimum production goals. However, this study does not weigh the economic optimum level, since in many instances maximum optimum use indicates a slow production increase and certainly not one which all farmers would pursue to the ultimate objective. In fact, many farmers would probably only follow the maximum use potential part way and cut further increased use applications for many reasons until they had considerable experience with heavier uses of plant food materials.

The North Central states reveal a production potential with full fertilization of more than an additional billion bushels of corn. Wheat production could be expanded by nearly a half billion bushels and oats by nearly three-quarter billion. To obtain such an ideal goal however there would be required use of 596,947 tons of N; 1,250,552 tons of P₂O₅ and 724,341 tons of K₂O.

This goal should be a constant target for the plant food industry.

The farm program being advocated by Ezra Taft Benson, secretary of agriculture, is the start of a period of transition. The recognition of a farm economic revolution was set forth in Mr. Paarlberg's speech in Massachusetts (CROPLIFE, page 1, Aug. 22) and was subsequently reaffirmed by Mr. Benson in a speech at Bloomington, Ill., Aug. 25.

The Benson goal may be roughly described as an attempt to steer the farm economic revolution into practical channels by these methods:

Disposal of surpluses which threaten to cripple the farm program.

Diversion of land use from field crops where soil scientists sense inefficient and improper use of such land.

Raising the level of individual farm operating efficiency to a point where lowered price supports will be the effective financial stop-loss level.

It is at this latter point where the plant food and pesticide industries can play major roles. Their participation will be more and more demanded not only by the government, but also by the farmer himself.

The major crops of the North Central states are corn, wheat, oats, soybeans, hay and pasture cover crops. The latter two represent the largest acreage; corn is in second place, wheat and oats next in line and soybeans bringing up the rear of this group.

For these states the estimated use of N per acre made in the Berger report (based on 1950 data) is set at a weighted average of three pounds resulting in an average per acre corn yield of 45 bu. This use percentage is said to represent application of nitrogen on 37% of the planted acreage.

Use of N per acre is estimated in Ohio at 160 lb. with a corn yield of 82 bu. As N use rate drops in this state down to zero, the corn yield falls to 4 bu.

Top Indiana use of N in pounds per acre is estimated at 120 resulting in a

yield per acre of 82 bu. At a zero use rate of N in Indiana, the corn yield falls to 57 bu.

Iowa with a top reported use of 80 lb. N per acre discloses a yield of 76 bu. and at a zero level use of N the crop yield falls to 66 bu.

In estimated comparison of average use in pounds of N, Ohio consumes 7 lb. per acre; Indiana uses 6 lb. and Iowa has an estimated use of 5 lb.

On an acreage basis in Ohio, USDA estimates that 95% of the planted acreage is fertilized with N. Indiana has 90% of acreage using N, but in Iowa the use level drops to only 32%.

Other comparative tables indicating estimated increases in corn production through heavier use of N disclose that Ohio would gain the most and Iowa the least. However, these statistical methods fail to show what may be gained in Iowa if N were used on the 68% of the planted acreage which now uses none whatever.

These three states follow about the same use pattern for phosphatic materials and potash.

In Ohio increasing applications of potash from 22 lb. per acre by 50% would bring out an additional 5 bu. per acre. A 200% increase would advance the Ohio per acre corn yield by an estimated 18 bu.

Examination of estimated use of fertilizers and their maximum use potentials for the North Central states is confined to corn since that has been the major crop in these states. While wheat is a major crop in every sense of the word, uncertain plans of USDA regarding a broadening of the non-commercial wheat belt to exclude substantial areas of the wheat regions of these states remove the urgency of any close examination of fertilizer data now.

The fertilizer industry may take caution over too great emphasis on the wheat crop for these states. With the exception of Kansas, the Dakotas, and Nebraska, soil use economists have doubts about the ultimate efficiency of land use for the wheat crop.

Much of the background for this article is obtained from a USDA re-

port, published last December and based on 1950 data. Much of the material in that report is rough in concept. It now is in the course of refinement and revision.

The goal of USDA is to write into the next effort an attempt to nail down not only a more exact maximum use potential in terms of economic return, but also an estimate of the point where farmers will halt use as the increase potential starts to level out or halts its abrupt incline.

CROPLIFE, Sept. 5, 1955—17

ENTOMOLOGIST NAMED

BATON ROUGE—Woody Dry has been named assistant entomologist for the Louisiana State University Agricultural Extension Service. He is a 1951 graduate of Louisiana State.

PEACH GROWERS TO MEET

COLLEGE STATION, TEXAS — Texas peach growers will hold a conference at Texas A&M College here Oct. 11-12.



more BHC

(Benzene Hexachloride Technical: 13 to 15% gamma content)

from Wichita, Kansas

We are in the BHC business to stay. Production at our new basic plant at Wichita, Kansas, is steadily increasing. We are doing our best to meet your needs, from this advantageous location in Mid-America. We make no finished insecticides in competition with our own customers . . . only BHC. Our other products are basic chemicals and high-purity salt for stock feeding, water softening and industrial uses. We try always to surpass specifications . . . and render "plus" service to match. We believe that's the best way to show that we appreciate your business.



• BHC, chlorine, caustic soda and muriatic acid from Wichita, Kans.

• High-purity salt, caustic soda from Denver City, Tex.; muriatic acid from Dumas, Tex.

THESE TRADEMARKS are your guide to basic chemicals of known quality . . . guaranteed by Frontier

FRONTIER CHEMICAL COMPANY

General offices: Wichita, Kansas

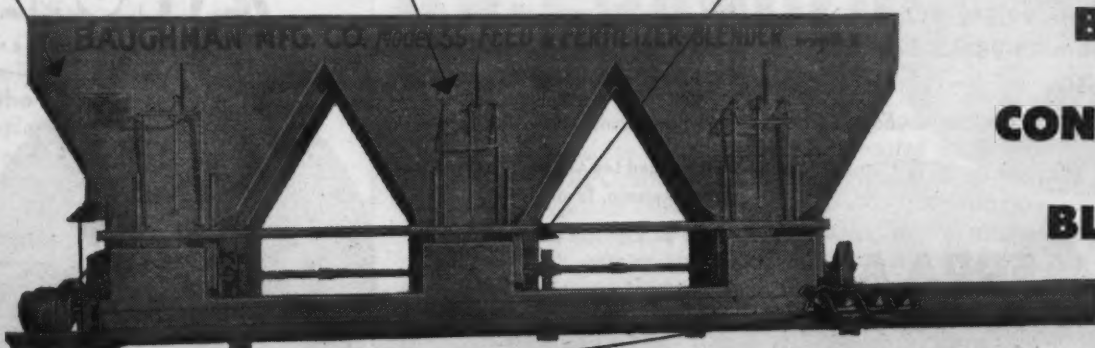
A DIVISION OF UNION CHEMICAL & MATERIALS CORP.

SCIENTIFIC Feed and Fertilizer Blending... AT NEW LOW COST!

BLENDING CHART indicates proper gate openings for batch being blended.

HOPPER GATE on every hopper has metered rule to assure accurate setting. Mixing and blending of 3 hoppers is simple, accurate!

HAND CLUTCH on each hopper permits use of any combination of hoppers, according to blend.



COUNTER records revolutions of hopper conveyor driveshaft. Is preset; stops when amount ordered is reached.

SCREW CONVEYOR at bottom of unit assures uniform blending.

Automatically...

... BLENDS exact proportion of ingredients needed.

... DELIVERS amount needed at approximately one ton per minute, depending on operator and weight of material.

Compact. Place on floor, hook up power. Low installation cost.

WRITE FOR BULLETIN A-402



BAUGHMAN MANUFACTURING CO., INC.

108 SHIPMAN ROAD • JERSEYVILLE, ILLINOIS



WORLD REPORT

By **GEORGE E. SWARBRECK**
Cropplife Canadian and Overseas Editor

Potash withdrawal permits covering a total of 502,503 acres in Saskatchewan have been granted to two Toronto business men, according to a report from J. H. Brocklebank, resources minister. The acres cover a strip extending from Saskatoon to Unity.

Four withdrawals covering 402,200 acres were granted to M. W. Caldough of Toronto and the other permit was granted to A. A. Allison, also of Toronto. Mr. Allison's permit covered 100,303 acres.

Mr. Brocklebank explained that

the maximum acreage that could be contained in a withdrawal was 100,000 acres with a rental of 1½ cents per acre for a six-month period. He stated that the most recent withdrawals became effective July 8, 1955, and that the exact location could be determined from potash permit maps, available from his department.

New Venezuelan Plant

Application to the Venezuelan Ministry of Agriculture for permission to form a new company to make fertilizers, has been made by a group headed

by Dr. Antonio Fuentes Davila, a chemist. The application states that the firm would build a plant in Cabimas (Zulia State) and would produce fertilizer materials for use in the cultivation of tobacco, rice and sugar cane.

Stauffer Chemical Company's Mexican subsidiary, Industrias Químicas de Mexico, S.A., has announced plans for construction of a new sulfuric acid plant, to be located in the State of Michoacan, Mexico.

Company officials say they are now engaged in the selection of a plant site, adding that construction will commence soon, with the plant scheduled for completion in 1956.

Industrias Químicas presently operates a carbon bisulfide plant at Morelia, Mich., Mexico.

The new plant, which will have an initially designed capacity of 100 tons a day, will be a contact plant utilizing Mexican sulfur in its operations.

A fertilizer-molasses mixture as a specially-blended feed supplement for

range cattle is being used by Grove Farm Company's ranch department according to a report in the "Nahana News" of the Kilauea Sugar Plantation Co., Kilauea, Kauai.

The report states that the fertilizer used is Gaviota Feeding Urappho blend of feeding-grade urea and feeding-grade phosphate compound. The blend is a product manufactured by Pacific Chemical and Fertilizer Co. It is especially designed for use with cane molasses in supplementary choice feeding of range cattle.

Grove Farm started using the new feed supplement in June, according to Richard H. Slope, ranch superintendent, about 10 tons of this supplement is to be fed to cattle each month. Only animals which are pastured in areas accessible by truck and which have permanent feeding troughs are present receiving this feed.

A mixing tank and a storage tank for the feed supplement have been set up at Koloa mill to maintain supply for the ranch. A thorough uniform mixture of fertilizer and molasses is essential in this type feeding. Use of the feed must be in accordance with furnished directions from the manufacturer.

Sadaichi Matsumoto of the Koloa mill laboratory staff is in charge of mixing the fertilizer blend into molasses.

Canadian Financing

Northwest Nitro-Chemicals, Ltd. has launched its \$8,900,000 debenture and common stock financing. Eastman, Dillon & Co. group is offering \$8,500,000 of the firm's 10-year 5½% subordinate income debentures and 850,000 common shares in the company, consisting of \$50 in debentures and five shares of stock at \$50 per share plus accrued interest on the debentures.

In addition, NNC is offering 300,000 common shares at \$1.50 share, also through the Eastman Dillon group.

Proceeds of the financing, together with \$12 million of 4½% first mortgage bond money from a private placement to Royal Bank of Canada will be used by Northwest Nitro-Chemicals to build a \$21.3 million synthetic fertilizer plant near Medicine Hat, Alberta.

The new debentures will be conditionally redeemable at prices ranging from 105 before August 1, 1956, to 110 after August 1, 1964. Sinking fund redemptions will be at Commercial Solvents Corp. and British Dominion Oil Co., Ltd., substantial stock interests in the firm.

Egyptian Visitor

Ahmed N. Sadek, chief chemist of the Egyptian Government's tobacco laboratory at Cairo has been inspecting American tobacco plantations while on an official tour. He was taken recently on a tour of tobacco farms in various counties of Kentucky. Guiding the inspection was C. W. Maloney, a state senator and president of the Stemming Tobacco Assn. of Kentucky.

Canadian Co-ops to Distribute Fertilizer Under Own Label

WINNIPEG — Prairie cooperatives will begin to distribute chemical fertilizers in Western Canada under their own co-op label, according to information received from International Cooperatives, Ltd., here. The supply source is Consolidated Mining and Smelting Co. of Canada.

The fertilizers will become available through local cooperative associations and will include 11-16-20-0, ammonium sulphate, prills, anhydrous ammonia and nitrogen solutions.

Pipeline

from an ocean of brine...

BORAX

Sodium Tetraborate, technical 99.5% $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ in coarse and fine granular and powdered grades
BORIC ACID
PYROBOR®—Dehydrated Borax
V-BOR®—Refined Pentahydrate Borax

From fabulous Searles Lake at Trona, California, come basic chemicals indispensable to Industry and Agriculture.

POTASH

Agricultural Muriate 95-98% KCl,
Chemical Muriate 99.5% KCl, and Sulphate 95-98% K_2SO_4

American Potash & Chemical Corporation

Offices: 3030 West Sixth Street, Los Angeles 54, California
99 Park Avenue, New York 16, New York
214 Walton Building, Atlanta 3, Georgia

Export Division 99 Park Avenue, New York 16, New York

Plants Trona and Los Angeles, California; San Antonio, Texas



LITHIUM

Lithium Carbonate, Lithium-Chemicals, Lithium Ores

SODA ASH

Sodium Carbonate, technical 99.2% Na_2CO_3 58% Na_2O in granular and fine granular grades

SALT CAKE

Sodium Sulphate Anhydrous, 97.0% Na_2SO_4 minimum, in regular and industrial grades

Producers also of—BROMINE CHEMICALS, and a diversified line of specialized agricultural, refrigerant and industrial chemicals.

International Bonnie Plant Damaged By Dynamite Bomb

CHICAGO—The Bonnie phosphate chemicals plant of International Minerals & Chemical Corp. near Bartow, Fla., was damaged recently by a dynamite bomb, according to officials of the company.

The dynamiting took place on the ninetieth day of the strike by local 35 of the International Chemical Workers Union on which negotiations have been punctuated by other acts of violence.

During the strike period portions of the plant have continued in operation by members of the supervisory staff.

The dynamiting took place in the central control room of the sulfuric acid plant. Personal injury was avoided by the fact that

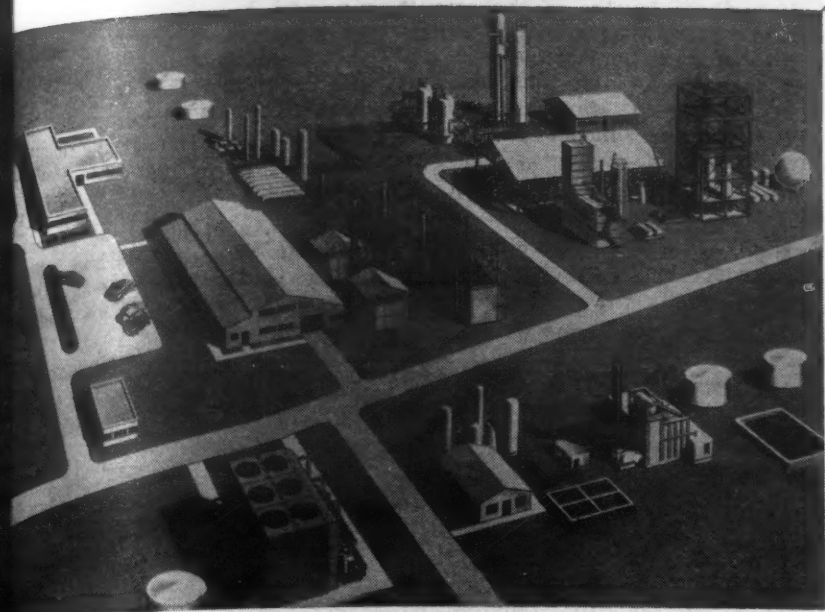
members of the supervisory crew had not yet reported for duty.

Preliminary estimate of the damage is believed to be in excess of \$50,000 and approximately two months may be required to repair the damage. However, temporary repairs requiring a week to ten days are being made so that the plant can be operated.

Officials of the company offered \$5,000 for information leading to the arrest and conviction of persons responsible for the dynamiting of the plant.

Florida Consumption

TALLAHASSEE — Fertilizer consumption in Florida during July totaled 79,008 tons, according to the State Department of Agriculture. This includes 29,529 tons of mixed goods and 49,479 tons of materials.



NEW PUERTO RICO PLANT—Shown above is the artist's conception of the new ammonia products plant that will be constructed at Guanica, Puerto Rico, for Gonzales Chemical Industries, Inc., by the Lummus Co., New York. The plant, first of its type in Puerto Rico, will produce anhydrous ammonia, sulfuric acid and ammonium sulfate. (See story on page 1 of this issue.)

Plant Nutrient Use 1954-55 Sets Record in Kansas

TOPEKA — Fertilizer consumption in Kansas during the fiscal year ended last June 30 totaled 233,684 tons, compared with 214,356 during the previous year, according to the Kansas State Board of Agriculture.

During 1954-55, plant nutrient consumption totaled 87,526.69 tons, for a new Kansas record. This total included 39,098.18 tons nitrogen, 44,996.63 tons APA and 3,928.88 tons potash.

Fertilizer consumption in the state totaled 135,687 tons in the fall season and 97,997 in the spring.

L. C. Williams, Kansas Extension Head, Dies

MANHATTAN, KANSAS — L. C. Williams, dean and director of the Extension Service at Kansas State College in Manhattan, died Aug. 25 in a Chicago hospital. He had suffered a heart attack Aug. 16 while enroute to a national conference of extension workers in Chicago. He was 63.

A member of the college staff since 1915, Dean Williams had held positions of assistant to the superintendent of institutes, assistant state 4-H Club leader, extension horticulturist, assistant dean and director, and extension dean and director to which he was appointed in September, 1947.



STEEL DRUMS

1 through 12 gallons

New 1-Gallon Drum—A smaller, easier-to-handle shipping and dispensing container supplied, when required, with a non-toxic, chemical resistant interior lining for dangerous and "hard-to-hold" products. This sturdy, standard ICC-17E container has a carrying handle and recessed 45 mm. screw nozzle. Choice of metal or plastic pouring spouts. No carton required. Available from stock in small or large quantities.



Drums in All Trade Sizes—Supplied with Hi-Bake Protective Linings applied under the control of scientific instruments. A wide variety of linings may be selected to assure the safe and approved shipment of active materials. The services of our resident chemist are available for tests and recommendations; and uniformity in composition and application is assured at all times. Most commonly used sizes are maintained in stock for prompt service.



Lug-Closure Pails—In addition to an entire line of drums, Vulcan also manufactures the most complete line of full open head pails. All popular spouts may be secured in lug cover pails for easy dispensing and plain nozzle openings are also supplied.

Samples of Any Size and Style Sent Upon Request—Over 35 Years of Top Quality Containers—Phone: Linden 4-5000

VULCAN CONTAINERS INC.

BELLWOOD • ILLINOIS

(CHICAGO SUBURBS)

MANUFACTURERS OF Steel Shipping Containers • Tin Cans • Specialties

IN TORONTO, CANADA: VULCAN CONTAINERS LIMITED

We fortified 2, 4-D with Borates
to give you this improved
low-cost weed killer...

destroys deep-rooted perennial weeds



DB* GRANULAR ... APPLY IT DRY!

Patent Applied For

Here's a new dependable weed-killing compound you can recommend for destroying all *deep-rooted* weeds! Briefly, DB Granular is a scientifically balanced formulation of sodium borates and 2, 4-D acid. As you know, 2, 4-D is subject to breakdown caused by soil micro-organisms. But, with sodium borates added in exactly the right proportion to control the micro-activity, the plant destroying action of 2, 4-D is prolonged and made doubly effective. As little as 1 lb. per 100 sq. ft. is all that is required.



DB-GRANULAR effectively controls:

LEAFY SPURGE • CANADA THISTLE • BINDWEED (Morning Glory)
TOADFLAX • WHITETOP • RUSSIAN Knapweed • And many other
perennial or annual herbaceous weeds on non-cropped land.

*DB is a trade-mark of Borax Consolidated, Limited

AGRICULTURAL SALES DIVISION

PACIFIC COAST BORAX CO.

DIVISION OF BORAX CONSOLIDATED, LIMITED

630 SHATTO PLACE • LOS ANGELES 5, CALIFORNIA



MANUFACTURERS OF FAMOUS "20 MULE TEAM" PACKAGE PRODUCTS

WRITE TODAY
FOR
SERVICE
BULLETIN
16-W

FLOOD DAMAGE

(Continued from page 1)

roads and roads, hobbling farm supply channels. There is the problem of getting adequate supplies to dealers and farmers over washed-out roads and rail beds.

To maintain shipments, the Interstate Commerce Commission has authorized railroads to route freight over any line.

Substantial loss of fertilizer and other farm supplies stored in temporary buildings was reported in the area.

Nothing comparable to the storm has ever been seen in the history of the oldest farmer.

Farmers were hard hit by the floods caused by the rain earth could not absorb. Rain made its own new brooks and rivers over farm properties which ploughed their courses over acres of land to join the natural outlets of the watersheds and swell them to overflowing.

Many barns and farm houses were completely swept away. There were 22,247 families affected in southern New England, the Red Cross said, and 361 homes were destroyed.

The U.S. Department of Agriculture designated six Massachusetts counties as flood emergency areas, Worcester, Berkshire, Hampden, Hampshire, Franklin and Middlesex.

Farming areas in Holyoke, Easthampton, South Egremont, Southampton, Warren, Oxford, Amherst, Milford and Blackstone, all in central or western Massachusetts, were ordered to boil drinking water as water

supplies were contaminated by the storm.

Government and Army experts, veterans of battling the flooding Missouri River, all specialists in soil conservation, flood control and rehabilitation, began attacking the flood devastation as soon as the flood waters subsided.

Two teams of experts from the Army Corps of Engineers, with an advance guard of 48 officers and an 80-man flood fighting and rehabilitation team, arrived at Boston from the Omaha and Kansas City districts, and were assigned to duty in the Worcester, Mass., Woonsocket, R.I., and Waterbury, Conn., areas.

All of Connecticut has been designated a flood emergency area by the U.S. Department of Agriculture. Eligible farmers may obtain loans to offset flood losses.

Department of Agriculture officials in the three afflicted states said the crop loss cannot be estimated at this time. As the flood waters recede, the crops are found covered with silt. Officials said the disaster may well stand as the greatest blow struck farmers in history.

A famine of local produce was one immediate result of the storm. Millions of pounds of contaminated produce was disposed of by health officials.

The Maryland Crop Reporting Service said that the storm did serious damage to corn, tobacco, tomatoes, sweet corn and cantaloupes. Damage was most extensive in southern Maryland, where from one

half to three fourths of the corn is so badly blown that it cannot be harvested with mechanical pickers.

About 40% of the tobacco fields in the southern Maryland tobacco belt show areas which were drowned out.

Delaware's farm areas have been declared emergency crop areas as a result of the wind and rains which have wiped out as much as 70% of some crops.

The U.S. Department of Agriculture has notified Rep. Harris B. McDowell, Jr., of Delaware, that "action is being taken immediately to authorize emergency loans through the Farmers Home Administration."

Descriptions of storm damage also apply to nine eastern shore counties of Maryland, which have also been approved for federal assistance.

Crop losses in Delaware from rain and wind damage run: Tomatoes, 60 to 70%; lima beans, 50%; soybeans, 50%, and corn, 25 to 30%.

Losses to agriculture in New Jersey were estimated at about \$5 million by G. E. Zich, assistant director of the state division of markets. The estimate did not cover losses of farm dwellings and personal property.

Flood damage to Massachusetts was computed at well over \$100 million, and more than \$1 million worth of valuable crops lay rotting under still flooded farmlands in the state.

Rain saturated soil in other sections will seriously reduce crop production, agricultural officials reported.

Paradoxically fringe rains from hurricane "Diane" actually helped some New England crops in northern Massachusetts, Vermont and New Hampshire, according to the New England Council.

The extent of crop damage will not be known fully until flood waters have receded from all fields. Individual farms near flooding rivers in southern New England suffered heavy "immediate losses of mature crops," Francis E. Robinson, manager of the council's agricultural department, said.

Other farms are expected to suffer decreased yields later as a result of "saturated soils" which tend to induce rot, he said. "The speed with which the fields dry out will have a major effect on the amount of rotting to crops," Mr. Robinson pointed out.

Truck crops were the hardest hit by the flood waters. Also ravaged were the tobacco areas in Massachusetts and Connecticut.

Mr. Robinson said there was little to indicate serious damage on dairy and poultry farms, which are the major sources of the region's farm income.

Some farmers in the stricken areas, around South Easton and other flooded towns, were harvesting tomato crops by boat. The tomatoes remaining above the flood waters can be saved, Mr. Robinson said.

Massachusetts Governor Herter suggested that the federal government set up a national disaster insurance program similar to the war risk insurance in effect during World War II. Under that program, property owners were covered against war damage to their property at the rate of \$1 per thousand. A program like that should be available for coverage against floods, hurricanes or tornadoes, the governor said.

A bi-partisan group of state senators filed a measure in the Massachusetts Legislature calling for a study into the possibility of creating a state agency which could give direct relief to individuals, farmers and business men in disaster areas.

Truck and tobacco crops in Massachusetts and Connecticut were seen as a total loss for the most part. Truck crops in Rhode Island were hard hit.

Tree spraying equipment was moved into marsh areas for a mop-

up, and householders were notified they could have their homes and cellars similarly sprayed in Boston. Mayor Hynes took steps to end health menace by ordering a decontamination project for the flood damaged areas of the city, Mattapan, Hyde Park and Readville.

A wave of bugs, not ordinarily seen in New England and believed blown north by Hurricane Diane, has been reported in the flood ravaged areas.

Concord, N.H. reported an influx of the praying mantis. Dr. J. G. Conlin, state entomologist, said the ordinarily these insects are not seen this far north once in 10 years.

The mantis was reported in quantities around Boston, Springfield, Mass., Providence, R.I. and Hartford, Conn. Val Peterson, Federal Civil Defense Administrator, flew into Boston for a helicopter tour of southern New England flood disaster areas. Mop-up work continued in the hard hit three state area.

The aerial tour of the stricken areas showed crops covered with silt, washed out roads, demolished farm houses and the streams and rivers that caused the damage flowing steadily in their original beds.

Connecticut was the hardest hit by the floods with 14,349 families affected. There were 5,512 in Massachusetts and 1,352 in Rhode Island.

A speedup order was issued by Brig. Gen. Robert J. Fleming, Jr., New England division engineer of the Army Corps of Engineers, who viewed by plane the wide section of the flood area, especially the former crop-rich Naugatuck Valley in Connecticut.

Army engineers in to take over flood repair operations said that New England's situation could be unique in the world, as in Europe most of the rivers have flood control installations to prevent mighty surges of water.

The flood devastation marked the second big blow to New England farmers in two seasons. A year ago the 1954 hurricane combination of "Carol" and "Edna" ruined the apple crop and severely damaged truck crops.

The damage inflicted by the back lash of hurricane "Diane," however, was cited as the greatest major disaster in the region's history.

Over 500 Expected at Mechanization Meeting

COLLEGE STATION, TEXAS—More than 500 cotton producers, college research workers and industry leaders will gather at Texas A&M College Sept. 7-9 for a close look at mechanization and its effect on the cotton industry.

Included in the three-day program will be discussions of the new equipment for cotton production, harvesting and ginning. A special panel will discuss cotton irrigation in the rain belt, its problems, opportunities and economic aspects. Highlighting the final day of the program will be a tour through the blackland area with a mechanized demonstration at the Temple Experiment Station featuring defoliation, desiccation and strip-per-type harvesting.

Insecticide Evaluation Work Started at Texas A&M

COLLEGE STATION, TEXAS—The Department of Entomology of Texas A&M College has undertaken studies to evaluate new formulations of high analysis insecticides, R. I. Lewis, director, has announced.

The evaluations, if successful, will provide more effective control of cotton insects, he said. The work is being done under a grant of aid provided by Olin Mathieson Chemical Corp.

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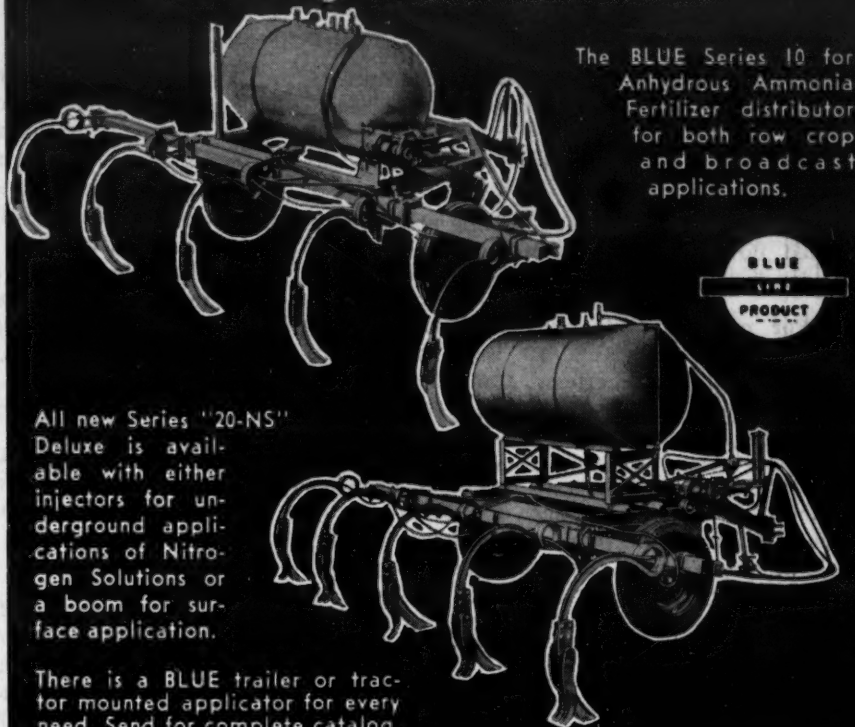
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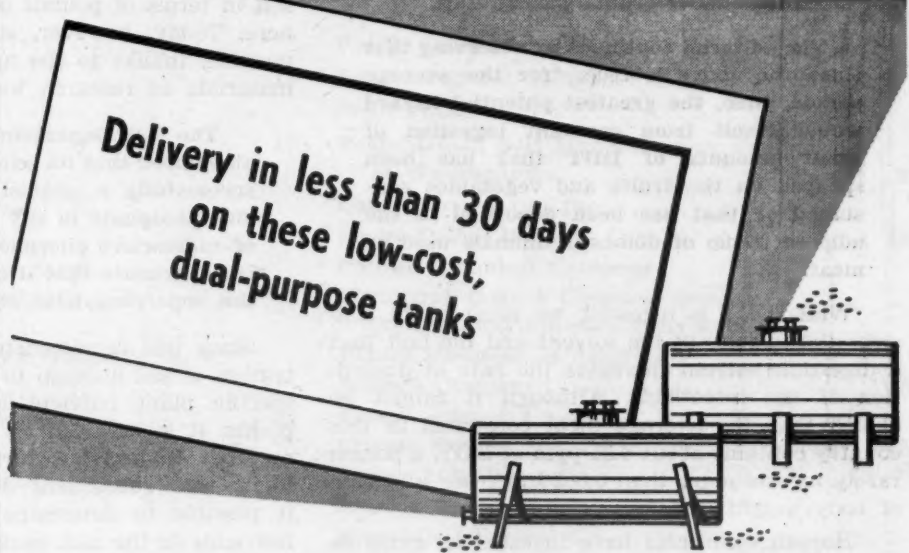
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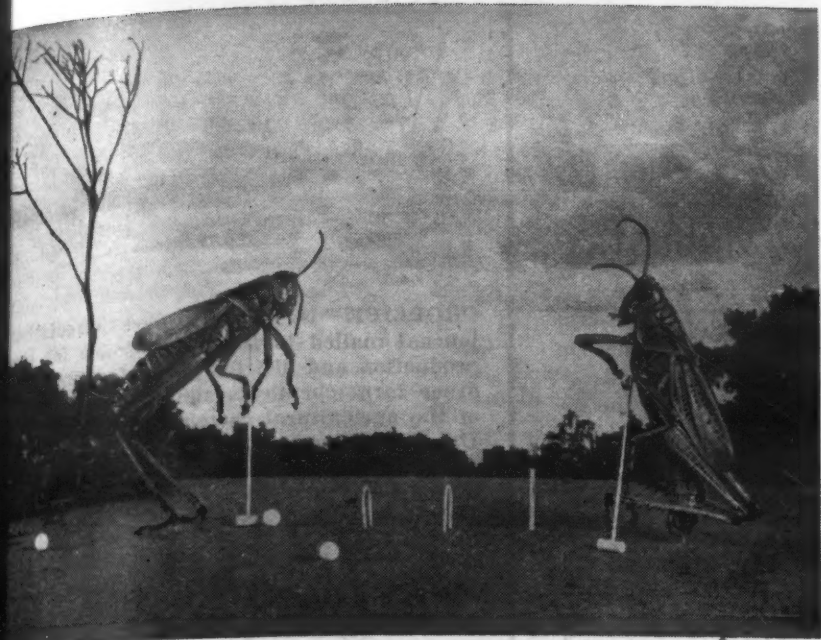
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GRASSHOPPERS AT PLAY—A Minnesota dentist with an unusual hobby submits the above photo of real grasshoppers playing croquet. Dr. Lehman Wendell, Minneapolis, who set up the picture, says that the foreground is a piece of gray cardboard, the wickets are bent pins, the mallets are sections of rosebush twig attached to hay handles; and the balls are Carter's Little Liver Pills. The background, he says, is an enlargement of a cloud negative which includes the trees in the distance. The tree in the foreground comprises a small weed held in place by a bit of moss. The grasshoppers themselves are real ones, provided by a dealer in biological specimens.

INSECT NOTES

(Continued from page 4)

cause reddening of the leaves and square drop, but the report that strips cause distortion of the bolls is not experimentally sound.

Yellow clover aphids are increasing in most alfalfa fields in Dona Ana county after a relatively aphid-free month. They are also returning to alfalfa fields in Quay County; but, as yet, populations are very light. Eddy county reports no yellow clover aphid infestations since the recent rains.

Tomato fruitworms have been very abundant on 200 acres of tomatoes in the Deming area, causing an approximate 25% loss in the crop. Melon aphid infestations were spotty throughout 1,350 acres of cantaloupe and honeydew melon fields in the Tucumcari area of Quay County.—John Durkin.

Late Blight Threatens Potatoes in New York

ITHACA, N.Y.—New York state's potato crop may be subject to a late-season blight, according to Prof. Robert S. Dickey, a plant pathologist of Cornell University here. His prediction is based on a long-range forecast of cool, rainy weather that presents the conditions under which the blight could strike. Prof. Dickey was urging growers to kill infected vines promptly and to continue applications of fungicides right up to harvest time.

Corn Borer's Work Nearly Over for Year

URBANA, ILL.—A few corn borer moths are still flying and a few egg masses can still be found, but for practical purposes moth flight and egg-laying are complete. Many of the second-generation corn borers are becoming full grown. Damage by second generation borers became more evident this past week, and occasional stalks have already broken over.

Adult spittlebugs are now concentrating in this year's legume seedings. The eggs they deposit in these fields this fall will hatch next spring, and the typical spittlebug damage and masses of froth will become apparent next May. To avoid spittlebug damage to the first cutting of hay next spring, control adults this fall before they lay eggs.

The outbreak of the green clover worm is apparently subsiding rapidly. Although damage is now apparent, most of the worms have

matured and are emerging as moths. Other insects, such as woolly bear caterpillars, are being blamed for the damage. Rarely does this insect do serious enough damage to warrant the expense of control measures.

In general it is now too late to treat for grasshoppers because most of the damage is already done. They are now migrating over the field and laying eggs. However, some fall-seeded wheats and legumes may need protection from grasshoppers moving in from adjacent fields.—H. B. Petty.

Bollworm Still Rates No. 1 in Arizona Report

PHOENIX, ARIZ.—In Maricopa County the bollworm continues to be the number 1 pest; with Lygus causing injury to late planted fields. The salt marsh caterpillars are causing considerable alarm in many parts of the county.

Assistant county agent Carter reported that leaf perforators and stink bugs are causing some alarm in the Gila Bend area. The leafrollers are still causing some worry to farmers but in most cases controls are being secured.

The cotton bollworm continues to be the number 1 pest in Pinal County with some counts running as high as 60 worms per 100 plants. Rains have prevented applications of insecticides, thus the high counts. Agricultural Research workers reported that aphids are on the increase in Pima County along with a good infestation of bollworms.—J. N. Roney.

Corn Insects Noted in Maryland

COLLEGE PARK, MD.—Damage to late corn by the fall armyworm and corn earworm has been severe and is expected to increase more.

Unusually heavy infestations of hessian fly have been noted this year and growers are advised to plant wheat during fly-free dates listed by the extension service.

Tobacco hornworms have done severe damage to tobacco, but the feeding is about over now, the report states. Storms prevented spraying activities when the worms were small, making emergency measures necessary at this time.—Geo. L. Bissell and Wallace C. Harding.

Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Northeastern states.

AMA Discusses Pesticides

Not too many years ago, the pesticide industry was practically inundated by wave after wave of ill-founded "information" from many persons who should have known better, to the effect that the increasing use of these toxicants was undermining the human race. Cancer, insanity, heart disease and even grouchy dispositions were said to be brought on by the widespread application of insecticides.

Fortunately, much of this shouting and tumult has died down and the status of agricultural pesticides is in good shape as of today.

For proof of this, one need look no further than the Aug. 13 issue of the *Journal of the American Medical Assn.* which carries an editorial, "DDT, a Blessing or a Menace?"

The editorial, couched in technical medical terminology, describes many of the physical effects of DDT on the human system, and notes that "like many other chemicals recently introduced on a large scale, it has been widely used with little regard for possible long-term effects on the human body or effect on beneficial forms of life, and for this reason some observers have sounded a note of alarm."

To counter these possibilities of harm, the editorial quotes Dr. W. J. Hayes, Jr. as reporting that "no authenticated case of systemic poisoning following even heavy dermal or respiratory exposure (to DDT) has been reported. On the other hand, the inert diluents used in the wettable powder are respiratory irritants. It may be safely said, however, that from the standpoint of respiratory exposure, dusting and aerosol operations are not hazardous under ordinary conditions."

The editorial continues by observing that since the above is true, "for the average person, then, the greatest potential hazard would result from constant ingestion of small amounts of DDT that has been sprayed on the fruits and vegetables consumed or that has been deposited in the adipose tissue of domestic animals used as meat."

"When DDT is ingested, we must again consider the toxicity of the solvent and the fact that a digestible solvent increases the rate of absorption of the insecticide. Although it cannot be denied that the average meal consumed in this country contains about 0.31 ppm of DDT, a person rarely ingests more than 0.0026 mg. per kilogram of body weight per day."

"Human volunteers have ingested as much as 0.5 mg. per kilogram of body weight per day for prolonged periods without injury, and the fatal oral dose for man is about 0.5 gm. per kilogram of body weight."

"H. C. Hsieh has reported the accidental introduction of 50% wettable DDT powder into flour used to make dumplings, each of which contained about 286 mg. of DDT. Eleven members of a family ate one or more dumplings, and three reported no symptoms. The rest complained of sweats, tremors, vomiting, headache and/or convulsions. They were given saline enemas and magnesium sulfate by mouth and all were well within two days."

In the light of these and other reports, the *Journal's* editorial in effect says "tsk, tsk" to Dr. Morton S. Biskind, the doctor who some time ago received a heap of publicity, of sorts, from his outspoken indictments against pesticides of all kinds. He, along with others of the same mind, "proved" that many of the ills of humankind were attributable to the use of bug killers, particularly.

But the editorial declares that Dr. Biskind's claims along this line are unsubstan-

tiated. His assertions that facts regarding DDT have been "concealed, suppressed, denied and distorted," no longer hold true, the *Journal* points out.

"Too many persons are willing or eager to attribute an increase in certain illnesses or an otherwise unexplained death to an exposure to some new chemical hazard without matching the patient's signs and symptoms with the known effects of poisonous doses of the chemical, or determining the degree of the patient's exposure," the editorial charges.

"Under the current administrative setup, the Department of Agriculture discusses the hazards of handling all new insecticides with the Public Health Service and requests the Food and Drug Administration to evaluate the hazards resulting directly or indirectly from the residues on foods."

"In the case of DDT, it is safe under ordinary conditions of legitimate use and definitely safer than such insecticides as arsenic, nicotine and sodium fluoride," the editorial concludes.

So here we have in effect a defense of DDT by the influential AMA journal. We feel that such a discussion being brought before physicians the country over, will tend to counteract any possible irresponsible blasts at the pesticide industry.

Sensible people think of pesticides as tremendously worthwhile materials to be used with care and due regard for the hazards involved.

Measuring Nutrients in Soil

A few years ago, soil scientists would probably have looked askance at anyone who claimed he could measure the available phosphorus in the soil in terms of pounds of superphosphate to the acre. Today, however, such a feat has become possible, thanks to the application of radioactive materials as research tools.

The U.S. Department of Agriculture has announced that its scientists have developed successfully a method of measuring available phosphate in any soil. Through the use of radioactive phosphorus, the new method is so accurate that it can express in pounds the superphosphate equivalent per acre.

Since this development marks the first penetration of soil makeup to learn how much of any specific plant nutrient is actually available to plants, it is heralded as a forerunner of similar methods to find out further secrets. It is held likely that subsequent developments may make it possible to determine the amounts of other nutrients in the soil, available to plants.

It is not difficult to visualize the influence such practice is likely to have on the plant food industry, particularly in the matter of recommendations for various grades of fertilizer. Having mastered the problem of measuring the amounts of phosphorus in the soil in pounds, the next logical step would be to relate this information to the number of pounds of nutrient the soil needs in addition. In other words, it could eliminate practically all guesswork.

USDA scientists Maurice Fried and L. A. Dean, who worked out their phosphate tests in the Atomic Energy Laboratory at Beltsville, Md., accomplished their feat by measuring plant absorption of phosphorus from two sources: the natural soil-held phosphate and radioactive phosphate fertilizer mixed with the soil.

It seems significant that this announcement was made by USDA at the time the International Conference of Peaceful Uses of Atomic Energy was being held at Geneva, Switzerland. Of the 66 countries represented at this conference, practically all will be looking to the U.S. for leadership in showing the rest of the world how the atom might be utilized for better living.



CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at \$5 for one year, \$9 for two years (\$8 a year outside the U.S. and possessions). Single copy price, 25¢.

LAWRENCE A. LONG

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MEETING MEMOS

Sept. 7-8—Corn Belt Anhydrous Ammonia Conference, University of Illinois, Champaign-Urbana Campus, Advance Registrations Room 216, Davenport Hall, Urbana, Ill.

Sept. 7-9—National Agricultural Chemicals Assn., Spring Lake, N.J.; Lea S. Hitchner, NAC Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

Sept. 7-9—Ninth Annual Beltwide Cotton Mechanization Conference, Texas A&M College, National Cotton Council of America, Box 18, Memphis 1, Tenn.

Sept. 11-16—American Chemical Society, National Meeting, University of Minnesota, Minneapolis.

Sept. 28-30—New England Fertilizer Conference, Poland Spring House, Poland Spring, Maine.

Oct. 3-5—Carolinas-Virginia Pesticide Formulators Assn., Inc., Annual Meeting, Holly Inn, Pinehurst, N.C.; J. B. Maddrey, 3111 Broad Creek Road, Norfolk 12, Va., Secretary-Treasurer.

Oct. 11—Western Agricultural Chemicals Assn., Annual Meeting, Hotel

Claremont, Berkeley, Cal.; C. O. Barnard, 2466 Kenwood Ave., San Jose, Cal., Executive Secretary.

Oct. 17-18—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago; Thomas J. Clarke, Chairman.

Oct. 19-21—First International Conference on the Use of Antibiotics in Agriculture, Washington, D.C.

Oct. 24—Salesmen's Association of the American Chemical Industry, Fourth Annual Sales Clinic, Roosevelt Hotel, New York.

Oct. 27—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. H. Beers, Executive Secretary, 228 N. LaSalle St., Chicago, Ill.

Nov. 2-3—Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend, Ore.; Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Nov. 2-5—Third annual Mid-Atlantic Farm and Home Show, Convention Hall, Atlantic City, N.J.; William A. Haffert, Jr., Sea Isle City, N.J., executive vice president.

Nov. 3-4—Northeastern Division, American Phytopathological Society, Eastern States Farmers Exchange, Inc., 26 Central St., West Springfield, Mass. B. H. Davis, Department of Plant Pathology, Rutgers University, New Brunswick, N.J., secretary.

Nov. 4—Fertilizer Section, South

Carolina Annual Accident-Prevention Conference, Hotel Francis Marion, Charleston, S.C.; Anton L. Foster, International Minerals & Chemical Corp., General Chairman.

Nov. 7-8—California Fertilizer Assn., Thirty-second Annual Convention, Hotel Mark Hopkins, San Francisco; Sidney H. Bierly, Executive Secretary and Manager, 475 Huntington Drive, San Marino, Cal.

Nov. 8-10—17th Annual New York State Insecticide, Fungicide and Application Equipment Conferences; Bibbins Hall, G.L.F. Exchange, Ithaca, N.Y.; C. E. Palm, Cornell University, Ithaca.

Nov. 17-18—Nitrogen Solution Field Day, National Nitrogen Solution Assn., State Armory, Springfield, Ill.; Roy F. Broyhill, Dakota City, Neb., meeting chairman.

Nov. 29-Dec. 2—Entomological Society of America, Netherlands Plaza Hotel, Cincinnati.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Dec. 5-7—Chemical Specialties Manufacturers Assn., 42nd Annual Convention, Roosevelt Hotel, New York; H. W. Hamilton, 50 E. 41st St., New York 17, N.Y., Executive Secretary.

Dec. 8-9—Michigan Fertilizer and Lime Conference, Michigan State College, East Lansing.

Dec. 15-16—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Sponsored by the National Cotton Council.

Dec. 28-30—American Phytopathological Society, Atlanta, Ga.; Glenn S. Pound, University of Wisconsin, Madison, Wis., Secretary.

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All Want Ads cash with order.

1956

Jan. 4-6—Weed Society of America, Charter Meeting, Hotel New Yorker, New York; W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., Secretary-Treasurer.

Jan. 15-17—New Mexico Grain & Feed Dealers Assn., Annual Convention, Hilton Hotel, Albuquerque, with Special Portion for Fertilizer and Farm Chemical Dealers; H. B. Henning, Albuquerque, Secretary.

Jan. 16-18—Southern Weed Conference, Ninth Annual Meeting, Hotel Jung, New Orleans; Dr. E. G. Rodgers, Florida Agricultural Experiment Station, Gainesville, Secretary-Treasurer.

Jan. 26-29—Agricultural Aircraft Assn., Inc., Sixth Annual Convention, Wilton Hotel, Long Beach, Cal.; Wanda Branstetter, Route 3, Box 1077, Sacramento, Cal., Executive Secretary.

June 28-30—Association of Southern Feed & Fertilizer Control Officials, 14th Annual Convention, Hotel Roanoke, Roanoke, Va.; Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

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THE CHEMICAL BASE FOR TOXAPHENE IS PRODUCED BY HERCULES FROM THE SOUTHERN PINE



For the first time in several seasons the Cotton Belt is experiencing a major outbreak of boll weevils. Late summer rains and high temperatures are ideal conditions for cotton production, but also provide a perfect climate for boll weevils.

With populations increasing rapidly, and with a bollworm outbreak threatening, experienced cotton farmers turned to toxaphene, both in dusts and spray formulations. Toxaphene, the insecticide that won acclaim as the outstanding boll weevil killer during the last major weevil infestation, is again proving its value. Results with toxaphene have been excellent. Farmers didn't have to double their dosages. Toxaphene did the job at the regular recommended rates.

Agricultural Chemicals Division,
Naval Stores Department

HERCULES POWDER COMPANY

931 Market Street, Wilmington 99, Delaware
Plants at Brunswick, Ga., Hattiesburg, Miss.
Offices at Atlanta, Birmingham, Brownsville,
Dallas, Los Angeles, Raleigh

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